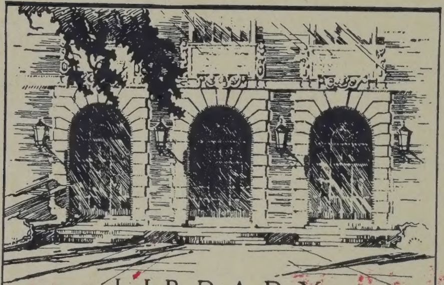

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THE NAVAJO YEARBOOK
of
PLANNING IN ACTION

Report No. IV

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Calendar Year 1954

THE
NAVAJO YEARBOOK
OF
PLANNING IN ACTION

Compiled by
Robert W. Young
Assistant to the General Superintendent

Photography by
Milton Snow

Navajo Agency
Window Rock, Arizona
1955

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DEPARTMENT OF THE INTERIOR
DOUGLAS MCKAY, *Secretary*

BUREAU OF INDIAN AFFAIRS
GLENN L. EMMONS, *Commissioner*

GALLUP AREA OFFICE
W. WADE HEAD, *Area Director*

NAVAJO AGENCY
G. WARREN SPAULDING, *Gen'l Supt.*

July, 1955

PREFACE

With the generous support of the Congress of the United States which, in th current fiscal year, appropriated $8,344,290 under the Long Range authorization; th realistic leadership of Commissioner Emmons whose approach to Navajo social an economic problems promises early provision of universal educational opportunities t Navajo children and the development of local industry to utilize the human resource of the Reservation; and the wholehearted cooperation and support of the Navaj Tribal government, the progress of the Long Range Program for rehabilitation of th Navajo people is encouraging and gratifying.

Analysis of circumstances, developments and conditions obtaining today, in th fifth year of the Program, has required adaptation, modification and reorientatio that could not be foreseen at the time the Rehabilitation Act was adopted in 1950 but the over-all objectives remain unchanged — only the methods and media fo attainment of those objectives have, in some instances, been altered to more adequately meet present requirements.

The Navajo Yearbook of Planning in Action is our attempt to present as muc as possible of the total Navajo picture. We are proud of our progress and it is ou desire to share the information pertaining thereto with the general public whos support in the beginning made possible the drafting and enactment of the Lon Range Act for the Rehabilitation of the Navajo and Hopi Indians.

G. Warren Spaulding
General Superintendent
Navajo Agency.

FOREWORD

The present brochure is the fourth in a series of reports published by the Bureau of Indian Affairs for the purpose of providing accurate, detailed information relative to progress in the social and economic rehabilitation of the Navajo Indians. The first three issues of "Planning in Action" were concerned exclusively with the Long Range Rehabilitation Program for the Navajo and Hopi Tribes (P. L. 474), describing progress made in that regard from the date of the initial Long Range appropriation on October 12, 1950, through fiscal year 1953.

The present report summarizes the Long Range appropriations through fiscal year 1954, and brings the progress report current to January 1, 1955. In addition, information is provided relative to the use of funds made available through "Regular" appropriations, and finally, there is included in the present publication an appendix containing general descriptive, statistical, historical and other types of information relating to the Navajo people and their Reservation.

The data provided in the main body of this report have been painstakingly assembled by members of the staff of the Navajo Agency, with the assistance of administrative personnel of the Gallup Area Office in the development of fiscal information.

Navajo Agency Branch Chiefs and other staff members have reviewed their files to develop a large part of the statistical information contained in the appendix, while the articles on Navajo life, the Navajo country, other factual summaries, etc., were developed by the editor. The latter has drawn freely on old reports and documents in the files of the Agency, and on published sources by such eminent students of the Navajo as Dr. Clyde Kluckhohn, Dr. Evon Vogt, Mr. Richard Van Valkenburgh, Fr. Berard Haile and others, in the course of assembling the information. Mr. Richard Van alkenburgh was especially helpful in reading the manuscript and offering his valuable comment.

Robert W. Young, Editor.

INTRODUCTION

THE NAVAJO-HOPI LONG RANGE REHABILITATION PROGRAM

PUBLIC LAW 474 — 81st CONGRESS

At the close of World War II, Navajos returned in large numbers to the Reservation following discharge from the service and the closing down of wartime industries. The Reservation resource, inadequately developed before the war, and further depleted in the absence of a large part of the population during the war years, was insufficient to support the group of people who suddenly found themselves again dependent upon it for a livelihood. The probable development of such a situation was recognized as early as 1942 by the Navajo Agency, and under the leadership of J. M. Stewart, then Superintendent, and G. A. Boyce, then Director of Navajo Education, several "Post-War Planning Conferences" were held and a series of positive recommendations were developed.

Following the war a report on Navajo Educational requirements was made by Dr. George I. Sanchez, and further studies were carried out, culminating in 1948 in the report of the Honorable J. A. Krug, then Secretary of the Interior. Entitled "The Navajo — A Long Range Program for Navajo Rehabilitation" the "Krug Report" was the precursor of the Navajo-Hopi Long Range Rehabilitation Act, finally enacted by the 81st Congress in 1950, and signed into law by the President on April 19 of that year.

Public Law 474, 81st Congress, authorized the appropriation, over a 10-year period, of a total of $88,570,000 for the expressed purpose of "promoting the rehabilitation of the Navajo and Hopi Tribes of Indians and a better utilization of the resources of the Navajo and Hopi Indian Reservations, and for other purposes," and committed Congress to a long range approach to the problems of social and economic rehabilitation of the two tribes in reference. The total appropriation was authorized in 14 categories, with totals appropriated to date as follows:

	APPROPRIATED					
AUTHORIZED	1951	1952	1953	1954	1955	Total
$88,570,000	8,645,520	6,675,100	9,215,800	9,773,810	8,344,290	42,654,520
School Construction						
1. 25,000,000	3,994,800	3,073,000	3,375,000	6,171,000	4,300,000	20,913,800
Hospital and Health Facilities						
2. 4,750,000	742,300	340,000	1,395,000	235,000	none	2,712,300
Agency, Institutional & Domestic Water Supply						
3. 2,500,000	542,200	136,000	125,000	100,000	125,000	1,028,200
Irrigation Projects						
4. 9,000,000	567,475	277,300	495,000	711,000	645,000	2,695,775
Roads and Trails						
5. 20,000,000	960,000	858,000	1,430,000	1,330,000	2,287,000	6,865,000
Soil & Moisture Conservation, Range Improvement						
6. 10,000,000	300,000	538,300	570,000	648,500	519,780	2,576,580
Development of Industrial and Business Enterprises						
7. 1,000,000	52,000	52,000	52,000	52,000	10,000	218,000
Resettlement on Colorado River Irrigation Project						
8. 5,750,000	800,000	387,500	442,000	425,000	440,000	2,494,500
Surveys & Studies of Timber, Coal, Minerals						
9. 500,000	15,545	125,000	125,000	101,310	17,510	384,365
Off-Reservation Placement and Relocation						
10. 3,500,000	194,600	none	none	none	none	194,600
Telephone & Radio Communication Systems						
11. 250,000	105,200	88,000	56,800	none	none	250,000
Revolving Loan Fund						
12. 5,000,000	none	800,000	1,000,000	none	none	1,800,000
Housing & Necessary Facilities & Equipment						
13. 820,000	26,300	none	none	none	none	26,300
Common Service Facilities						
14. 500,000	345,100	none	150,000	none	none	495,100

The old Dayschool at Steamboat Canyon . . .

Was converted to a Reservation Boarding School in 1954, increasing enrollment from 74 to 140.

I. EDUCATION

LONG RANGE APPROPRIATIONS

With regard to education, the original intent of the Long Range Program, in terms of construction, was (1) the repair and enlargement of 8 existing boarding schools, (2) the construction of 5 new large boarding schools, and (3) the remodeling, enlargement, replacement and/or conversion of 41 day schools to boarding school basis. In terms of objective, the intent was to (1) provide sufficient educational facilities on the Navajo and Hopi Reservations to ultimately give educational opportunities to all school age Navajo and Hopi children on a boarding or day basis as circumstances might dictate, (2) to provide for the elementary and vocational education of children between the ages of 12-18 years who had not previously attended school, or who were 3 or more years retarded, (3) to transfer responsibility for the education of Navajo and Hopi children to the public school system as rapidly as possible, and (4) to povide high school opportunities on and off the Reservation as required.

Priorities with relation to the sequence of construction and repair of school buildings were established by the Advisory Committee of the Navajo Tribal Council, and during the period F.Y. 1950-54, 8 school construction projects were completed, exclusive of the Shiprock school project. The construction projects in reference served partly to provide adequate dormitory facilities in lieu of dangerous, make-shift facilities previously in use, and did not increase school enrollment greatly.

The Navajo Tribe was deeply concerned about the future of more than half its school age children, for whom there was no school space available and, in November of 1953, the Tribal Council advised the Commissioner of Indian Affairs, Mr. Glenn L. Emmons, that (1) they were concerned about the slow progress being made toward the provision of needed school facilities for **all** school age Navajo children and, (2) they favored reprogramming of the 1954 appropriation to effect greater economy in design and materials, thus spreading the available funds to provide the maximum number of school seats possible.

On March 3, 1954, the Navajo Tribal Council adopted a resolution authorizing the Commissioner of Indian Affairs to take whatever steps he might deem necessary to accomplish the objective of universal education for the Navajo. One of the primary interests of Commissioner Emmons lay in the earliest possible provision of educational opportunities to the Navajo Tribe and, shortly after taking office, Mr. Emmons initiated the Navajo Emergency Education Program. The latter is an accelerated form of the school program envisaged in the Long Range Act, and a primary objective was to provide educational facilities for an additional 7,946 Navajo children by September, 1954, to raise total enrollment to 22,052. (That goal has not only been attained in the current school year, but has been surpassed, with a total enrollment of 22,188.)

Authorized appropriation	$25,000,000
Appropriated 1951-53, inclusive	10,442,800
Appropriated 1954	6,171,000
Appropriated 1955	4,300,000
Total	$20,913,800

The new Reservation Boarding School at Sanostee, completed in the fall of 1954.

The 1954 Long Range Appropriation of $6,171,000 for construction of school facilities was reprogrammed to effect a savings of $4,573,500, as shown herewith, and to finance a modified school construction program.

MODIFIED SCHOOL CONSTRUCTION PROGRAM

Original Project	Allocation	Planned Enrollment	Re-programmed to	Current Enrollment (12/30/54)	Savings Effected
Standing Rock Conversion	$ 450,000	64	$ 98,000	64	$ 352,000
Steamboat Conversion	815,000	180	299,000	140	516,000
Crystal Conversion	720,000	180	236,000	110	484,000
Greasewood Conversion	725,000	180	223,000	180	502,000
Pinon Enlargement	815,000	300	410,000	220	405,000
Dennehotso Enlargement	625,000	170	0	181	625,000
Seba Dalkai Conversion	450,000	96	0	98	450,000
Polacca, new building	450,000	(140)	0	(Hopi)	450,000
Shiprock Boarding School	834,000	1,224	331,599	860	502,500
Fort Defiance Sewage	40,000	----	0	----	40,000
Keams Canyon steam Distr.	44,000	----	0	----	44,000
Quarters, various	203,000	----	0	----	203,000
TOTAL	$6,171,000	2,534	$1,597,599	1,853	$4,573,500

The Navajo Emergency Education Program, born of the determination of Commissioner Emmons and the Navajo Tribe to provide educational opportunities to every school age Navajo child, and supported from the most humble hogan to the halls of Congress, has proven itself to be an outstanding achievement, of which the Congress, the Bureau of Indian Affairs and the Tribe can well be proud. The titanic task of providing the additional facilities required to meet the goal of enrolling 22,052 children in school by September of 1954 was accomplished by the close teamwork of everyone concerned, and by the generous support of Congress and the Tribe.

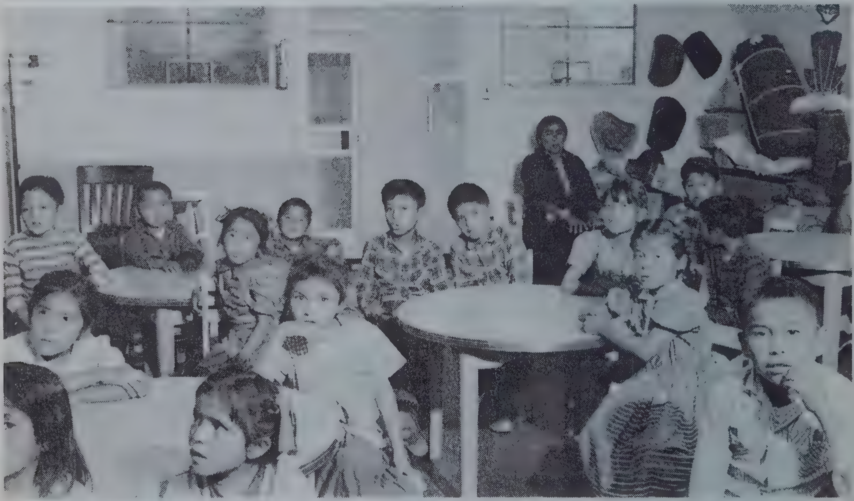
The Reservation schools. The program has required the use of existing school plants to the greatest degree possible, even to the utilization of dining rooms for classroom or dormitory purposes, and to the erection of quonset hut as classrooms in order to free the classrooms themselves, with their toilet and lavatory facilities, for use as dormitories.

The Off-Reservation schools. Likewise, the off-Reservation school enrollment was expanded, with regard to the Special as well as the Regular program, and an additional number of children were made eligible for enrollment as special 5-year students by lowering the minimum age requirement from 12 years to 10. Haskell Institute of Lawrence, Kansas, was added as a Special Program school, and all in all the off-Reservation enrollment was increased by approximately 1,200 pupils.

A five-year special vocational program, currently enrolling approximately 5,000 Navajo students, is carried on in 11 Federal boarding schools located in 7 states. The Special Program was developed to meet the basic requirements of adolescent Navajo young people between the ages of 12 and 18 who had had little or no previous schooling.

Major objectives of the Special Program are a basic knowledge of written and spoken English, as well as the development of vocational and other skills necessary

The Trailer School at Indian Wells, Arizona.



A trailer school classroom.

to successful living in communities outside the Navajo Reservation. Without the educational opportunity thus afforded to over-age children, they would be illiterate and untrained, and would remain dependent upon reservation resources.

During the period 1951-1954 the Special Program schools graduated a total of 820 such special students. Of those graduated, the majority are currently employed in industry in major cities throughout the country. Follow-up records reveal the fact that the majority of the former Special Program students are living at standards comparable with those of other citizens in their respective communities. They are accumulating such possessions as modern homes, automobiles, radios, refrigerators and other items associated with average American living standards. Many such former students utilize the banks and maintain savings accounts.

Employment records relative to the Special Program graduates in reference reveal the following:

96	in the armed services	11.7%
381	employed off the reservation	46.5%
66	employed on the reservation	8.0%
44	going on to school	5.0%
33	housewives (full-time) off reservation	4.0%
40	housewives (full-time) on reservation	4.87%
6	deceased	0.7%
7	hospital patients	0.85%
9	unemployed off the reservation	1.09%
106	unemployed on the reservation	12.9%
21	unknown at this time	4.0%

The special five-year vocational program is based on sound educational principles, and the results attained indicate that it is contributing to the preparation of a large segment of the Navajo population for successful adjustment to life in American society.

The Trailer schools. The excellent school census which had been developed by the Navajo Branch of Education, complete with maps showing the location and distribution of family groups in the Navajo country, was used to determine locations where enough children live sufficiently near a central point to make it feasible to serve them on a day school basis. Thirty six such locations were decided upon, and at each a trailer school was established, thus providing additional space for 1,188 children between the ages of 6-7 years, inclusive, who are beginners or in the first grade. Actual current enrollment in the trailer schools totals 995 (Dec. 31, 1954).

The trailer schools consist generally of one or more quonset huts to serve as classrooms and kitchen, with trailers serving as washrooms, and as quarters for the staff. At most such locations it was necessary not only to make required intallations, but to develop water and build access roads, all before September of 1954.

If a trailer school does not prove to be successful in a given location, it can be moved at a minimum of expense to another location.

The Bordertown Dormitories. Another aspect of the Navajo Emergency Education Program was the arrangement made with public school officials in towns situated peripherally to the Reservation, to absorb a total of 1,027 Navajo children into the public schools. At these locations, the children are housed in dormitories operated by the Bureau of Indian Affairs, and built or provided by private capital or by the

The Dilkon Trailer School

One of 37 such schools operated presently at isolated locations over the Navajo country.

Bureau. In some communities contracts have been let for the purpose of feeding the children. Plans have been developed for the expansion of this program in the coming school year with the possible addition of Farmington, New Mexico, Flagstaff, Arizona, and Cortez, Colorado, and with increased enrollment at some of the other locations. The Bureau of Indian Affairs subsidizes the public school districts to offset the cost of educating the Navajo children enrolled in such public schools. The following table summarizes the present and proposed bordertown program.

PRESENT AND PROPOSED BORDERTOWN DORMITORIES

School	Actual 1954-55 Enrollment	Anticipated 1954-55 Capacity	Proposed Enrollment For 1955-56	Increase for 1955-56
Aztec, N. M.	115	120	120	0
Gallup, N. M.	341	300	600	300
Holbrook, Ariz.	129	120	240	120
Richfield, Utah	127	120	300	180
Snowflake, Ariz.	120	120	120	0
Winslow, Ariz.	195	180	300	120
Farmington, N. M.*	------	------	500	500
Cortez, Colorado*	------	------	300	300
Flagstaff, Ariz.*	------	------	500	500
	1,027	960	2,980	2,020

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* Establishment of these bordertown dormitories will depend upon Navajo enrollment needs and the availability of funds.

With the reprogramming of funds appropriated under the Long Range Act in fiscal year 1954, and with other available money the following projects have been completed or initiated in connection with the Emergency Education Program:

Location	Purpose	Total Work Authorized	1/55 Status of Construction
Shiprock	Additional quarters for expanded program and furniture for dormitories	$ 331,599	Completed
Kayenta	Construction of a new 536 pupil school	1,507,000	To be completed 7/1/55
Kaibeto	Additional quarters, remodeling of existing school buildings and furnishings	39,000	Completed
Thoreau	Folding partitions, to divide dormitory living rooms into classrooms, and equipment	7,000	Completed
Nazlini	Additional classrooms and quarters equipment	45,000	Completed
Crystal	Dormitories, additional quarters, light plant, remodeling of present school building and heating system, utilities, furnishings and equipment	236,000	Completed

The Holbrook Dormitory.

Mixed class of Navajo and white children in the Snowflake Public School.

Greasewood	Dormitories, additional quarters, light plant and storage, remodeling of present school building, utilities, furnishings and equipment	223,000	Completed
Standing Rock	Dormitories, utilities, furnishings and equipment	98,000	Completed
Steamboat	Dormitories, dining hall and kitchen, additional quarters, remodeling present school building, conversion of quonsets to classrooms, utilities, furnishings and equipment	299,000	Completed
Pinon	Dormitories, additional classrooms and quarters, light plants and storage, dining room and kitchen, furnishings and equipment; repairs to existing buildings	410,000	Completed
Wide Ruins	Additional classroom and quarters; equipment, remodeling of present kitchen and dining room	69,500	Completed
	Sub-total	$3,265,099	
Warehouse Shed, Access Trails, Water Exploration and Major Repairs and Improvement Projects		320,000	
	Sub-total	$3,585,099	
Engineering Plans and Surveys		185,000	
	Sub-total	3,770,099	
Bordertown Dormitories		314,000	
	Sub-total	4,084,099	
36 Trailer Day School Locations		950,690	
	Sub-total	5,034,789	
NEEP FUNDS to Phoenix		129,756.90	
	Sub-total	5,164,545.90	
Central Office Unprogrammed Funds		460,454.10	
	TOTAL	$5,625,000.00	

REGULAR APPROPRIATION

The funds appropriated in the regular appropriation are utilized for all phases of school operation, including administration, provision of utilities, payment of teachers and ancillary personnel, purchase of supplies and equipment, etc. A total of $8,461,165.00 was made available in fiscal year 1955, to defray the operating expenses of 97 Reservation schools, 6 Bordertown Dormitories, 15-20 hogan units, and to pay the transportation of 6,000 pupils from their homes in the Navajo country to off-reservation schools operated by the Bureau of Indian Affairs. The Navajo Agency Branch of Education employs a total of 1,465 persons.

Students file to class at Intermountain Indian School

Intermountain Indian School ,operated in the former Bushnell VA Hospital at Brigham city, Utah, was opened in 1950. Largest of the off-Reservation Boarding Schools, Intermountain has current enrollment in excess of 2300 Navajo children.

The following table shows the number of each type of school, the operational expense of which is paid from the regular appropriation in reference above, with the current and anticipated maximum enrollment.

Type of School	Number in Operation	12/30/54 Enrollment	Anticipated Capacity
Boarding	28	6,043[1]	7,267
Community	22	1,490	1,406
Day	10	601	544
Trailer Day	37	995	1,188
Hogan Units	15	315	323
Bordertown Dormitories	6	1,027	960
Total	118	10,471[2]	11,688

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[1] This number will change considerably when construction projects in progress are completed. (e.g. Kayenta).

[2] Indications are that all schools will be filled by the end of the school year except Kayenta which is in the process of being constructed.

In addition to 16,928 Navajo children enrolled in Bureau operated schools, or in public schools under the Bordertown Dormitory Program, there ae 3,900 currently enrolled in other public schools, and 1,360 enrolled in mission schools. Further, and in addition to all other Reservation school facilities, two pubic schools with a combined capacity of 1,040 pupils have been completed at Fort Defiance and Ganado, Arizona, with funds appropriated under Public Law 815, and additional schools in the same category are planned for Chinle, Tuba City, Crownpoint and other locations on or near the Reservation.

NAVAJO SCHOOL ENROLLMENT CHART

Type of School	1952-53 Enrollment	1953-54 Enrollment	Goal or Anticipated 1954-55 Capacity	12/30/54 Enrollment
Federal	10,531	11,442	17,728	16,928[1]
Public	2,385	2,830	3,074	3,900
Mission	1,190	1,229	1,250	1,360
Total	14,106	15,501	22,052	22,188

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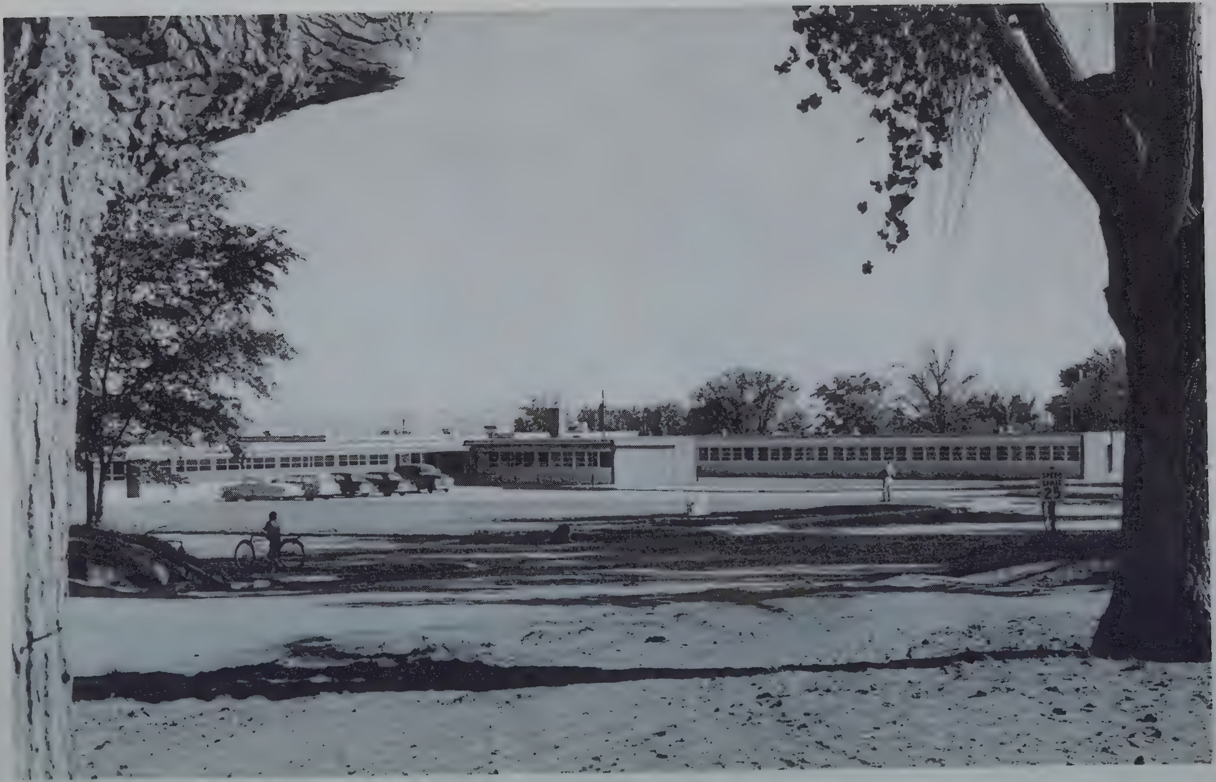
[1] This enrollment has increased considerably since 12/30/54.

By September 1955 there will remain about 5,000 Navajo children for whom school facilities were not made available during the 1954-55 school year, and planning is currently in progress to provide for that residue with the opening of the 1955-56 school year.

The Navajo Tribal Council has acted to provide an appropriation of $350,000 for the purchase of suitable clothing for needy Navajo school children. In the past, lack of appropriate clothing has constituted a serious barrier to regular school attendance or even to enrollment.



The new 75-bed hospital, completed in the fall of 1954, at Tuba City, Arizona.

2. HOSPITAL AND HEALTH FACILITIES

LONG RANGE APPROPRIATIONS

The Navajo-Hopi Long Range Act provided a total authorized appropriation of $4,750,000 for purposes of (1) reconstruction, expansion or replacement of field hospitals at Shiprock, Tuba City, Winslow and Chinle; (2) establishment of field clinics, especially in conjunction with the larger schools; (3) development of mobile medical and dental services; and (4) provision of an adequate public health program.

In general, Long Range planning gave first priority to the development of health education and other measures aimed at **prevention** of illness, although recognizing the need for additional medical relief to the sick and injured. The field health, preventive medicine program contemplated (1) construction of field dispensaries at Tohatchi, Chinle, Kayenta and Gallup, each staffed by a physician, 2 public health nurses, and ancillary personnel for all treatments of a minor, out-patient nature, for health examinations, and health education; (2) a series of small field clinic rooms in connection with field nurse stations where minor health services would be available; (3) 8 mobile clinics each staffed with a physician and equipped with an x-ray unit and other portable equipment; (4) 25 public health nurses; and (5) 11 dentists to serve on a fixed and on an itinerant basis at hospitals, health centers and field clinics.

In terms of hospitals and other curative medical facilities, the Long Range Program contemplated (1) increasing the number of hospital beds from 286 general and 150 tubercular to 390 general and 400 tubercular which, with available mission hospitals and the Hopi hospital at Keams Canyon, would provide approximately 6.4 general beds per 1000 population, and (2) construction of a 200 bed addition to the tuberculosis sanatorium in Albuquerque.

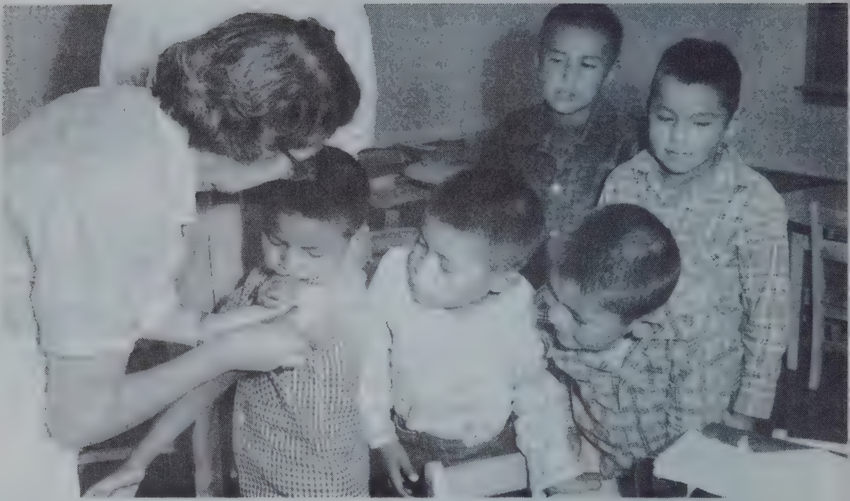
To date, a total of $2,712,300 has been appropriated from the authorized total of $4,750,000. The 1954 appropriation of $235,000 was allocated as follows:

1. Shiprock Hospital, Engineering Plans and Surveys	$80,000
2. Tuba City Steam Distribution System	34,000
3. Ft. Defiance Sewage System	40,000
4. Keams Canyon Steam Distribution System	81,000

There was no appropriation of Long Range Funds for Hospital and Health Facilities in fiscal year 1955, because Congress authorized the transfer of the Health operations of the Bureau of Indian Affairs to the Public Health Service of the Department of Health, Education and Welfare, effective July 1, 1955.

The status of construction carried out or in progress with Long Range funds appropriated in the fiscal years 1951-54, inclusive, is as follows:

1. Shiprock Heating and Power Plant: Complete (Health portion)	$ 464,700
2. Tuba City Hospital: Complete (including plans) (Construction of housing in conjunction with the Tuba City Hospital began, under contract, in December, 1954.)	1,421,700
3. Tuba City Heating and Power Plant. Planned, and funds allocated in amount of	200,000
4. Quarters Various (Health pro-rata share)	390,000



The Public Health Nurse immunizes school children against typhoid, diphtheria, whooping cough and scarlet fever.

ATES INDIAN SERVICE
LOSIS X-RAY UNIT

The Mobile X-Ray Unit, an important aspect of the tuberculosis case-finding program.

The amount of money authorized in the Long Range Act was insufficient to carry out the total program intended, and to some degree circumstances have changed in the past four years. The latter is especially true in connection with the treatment of tuberculosis, for since the advent of the anti-tuberculosis drugs the construction of sanatorium facilities on the Reservation or in Albuquerque is no longer necessary. It has been possible to contract for beds and medical care with 9 off-Reservation, privately operated sanatoria and, on January 1, 1955, there were 461 Navajo patients in the following institutions:

Sanatorium	No. of Patients
Barfield Sanatorium Tucson, Arizona	62
Cragmore Sanatorium Colorado Springs, Colo.	63
Ft. Stanton Sanatorium Ft. Stanton, New Mexico	92
Mesa Vista Sanatorium Boulder, Colorado	109
Pottenger Sanatorium Monrovia, California	54
Presbyterian Hospital Albuquerque, New Mexico	24
Santa Teresita Sanatorium Duarte, California	18
Santa Teresita Sanatorium (Special) Duarte, California	7
State TB Sanatorium Socorro, New Mexico	20
Valmora Sanatorium Valmora, New Mexico	12
Total	461

In addition, 100 patients are under care at the Tuberculosis Sanatorium operated by the Bureau of Indian Affairs at Fort Defiance, bringing the total to 561.

With construction of the new 75-bed hospital at Tuba City, there is a total of 360 beds available in five Bureau operated hospitals, exclusive of the Tuberculosis Sanatorium. These are:

Hospital	Capacity
Crownpoint Hospital	56
Navajo Medical Center	115
Shiprock Hospital	41
Tuba City Hospital	75
Winslow Hospital	73
Total	360

In addition to the above, the Bureau of Indian Affairs operates a clinic at Tohatchi, New Mexico, and Chinle, Arizona, and contracts for the operation of a clinic located in the Gallup Community Indian Center. Small field clinics are operated by public health nurses at Lukachukai and at Pinon. Outpatient treatments in the hospitals and clinics totaled 87,826 during the past year.

The five leading diseases treated among Navajos in Bureau operated hospitals and clinics are (1) gastroenteritis and diarrhea; (8) pneumonia; (3) venereal; (4) tuberculosis; and (5) respiratory infections exclusive of pneumonia and tuberculosis.

Insofar as possible, with the limited facilities available, the intent of the Long Range Program is being carried out, both with regard to preventive and to curative medicine. Health talks, community meetings, health movies in the Navajo language and other measures developed jointly by the Director of Field Health, and Triba leaders(1) have proven highly effective as media for health education; the problem is largely one of reaching a greater number of the Navajo people. Reservation missionaries have shown themselves eager to participate in the forging of a more effective field health program, and the Navajo Tribal Council has twice appropriated $10,000 of Tribal funds to assist the Cornell University Medical School—New York Hospital Tuberculosis Research Team, under the leadership of Dr. Walsh McDermott to give personal supervision in the use of chemo-therapy in the treatment of tuberculosis among Navajos. The program is sound, and collaboration is not lacking; the problem is to reach all areas of the Reservation. Perhaps the U. S. Public Health Service, with the vast resources available to it, will be able to accomplish the objective of bringing health and sanitation among the Navajo up to standards.

(1) Mrs. Anna Wauneka, Chairman of the Tribal Council Committee on Health and Welfare, and Mr. Paul Jones, Tribal Council Interpreter and Liaison Representative, have been especially active in collaboration with the Director of Field Health in the development of a more effective program of health education.

REGULAR APPROPRIATION

The regular appropriation for fiscal year 1955 to the Navajo Agency Branch of Health totals $4,367,437, and is used to defray the cost of over-all administration and operation of the health program. The purposes to which these funds are put are summarized herewith:

HEALTH BRANCH BUDGET

1955 FISCAL YEAR

Total Allotment		$4,367,43
Operational and Administrative:		
Health Program Direction	$ 144,913	
Disease Control Services	340,090	
Bureau Hospital Operation	1,568,041	
	2,053,044	$2,053,04
Off-Reservation Tuberculosis:		$2,179,07
Other Contractual:		
Lovelace Clinic	$ 15,000	
Psychiatric Care	45,120	
Gen. Medical and Surgery, etc	75,200	
	135,320	$ 135,32

3. AGENCY INSTITUTIONAL AND DOMESTIC WATER SUPPLY

The development of an adequate water supply to serve Reservation communities, new school and other construction was recognized in the Long Range Program as a basic requirement. Accordingly, an appropriation of $2,500,000 was authorized, of which $1,028,200 have been made available to date. A portion of this appropriation has been transferred to the U. S. Geological Survey for geological studies and ground water reports as a preliminary to well drilling, while the larger portion of the funds appropriated has been made available fo drilling and development purposes.

More detailed information is provided herewith relative to appropriations and progress.

SUMMARY OF EXPENDITURES, 1951-1955

Transferred to U. S. Geological Survey	$ 345,000
Drouth Relief, 1951	27,200
Engineering	76,550
Misc. Expenses	56,750
Construction of Wells	522,700
Total	$ 1,028,200

STATUS OF WELL CONSTRUCTION

Location	Allocation	Status
Thoreau (N. M.)	$28,024	100% complete
Kaibeto (Ariz.)	14,220	100% complete
Cheechilgeetho (N. M.)	24,081	100% complete
Twin Lakes (N. M.)	29,240	100% complete
Fort Defiance (Ariz.)	44,644	100% complete
Lukachukai (Ariz.)	11,239	100% complete
Sanostee (N. M.)	15,135	100% complete
Hunters Point (Ariz.)	2,317	100% complete
Pine Springs (Ariz.)	21,596	100% complete
Naschitti (N. M.)	5,601	100% complete
Kayenta (Ariz.)	11,866	100% complete
Chinle (Ariz.)	7,441	100% complete
Iyanbito (Ariz.)	27,704	100% complete
Leupp (Ariz.)	2,419	100% complete
Keams Canyon (Ariz.)	45,285	100% complete
Mariano Lake (N. M.)	15,657	100% complete
Window Rock (Ariz.)	26,500	100% complete
Nava (N. M.)	22,400	100% complete
Standing Rock (N. M.)	2,500	100% complete
Steamboat (Ariz.)	8,750	100% complete
Dennehotso (Ariz.)	4,000	10% complete
Seba Dalkai (Ariz.)	12,000	0% complete
Teecnospos (Ariz.)	13,000	30% complete
Pinon (Ariz.)	13,963	100% complete
Mexican Springs (N. M.)	159	100% complete
Nazlini (Ariz.)	2,265	100% complete
Tuba City (Ariz.)	4,347	100% complete

1955 WELL PROGRAM

Nazlini (Ariz.)	9,000	100% complete
Torreon (N. M.)	14,750	0% complete
Teecnospos (Ariz.)	13,000	30% complete
Pine Springs (Ariz.)	18,000	100% complete
Lukachukai (Ariz.)	14,000	30% complete
To be programmed	7,597	0% complete

4. IRRIGATION PROJECTS

LONG RANGE APPROPRIATIONS

The development of the Navajo (formerly called the Shiprock-San Juan) an other Reservation irrigation projects is a major objective of the Long Range Program Next to livestock raising, irrigation agriculture is the principal source of Reservatio income, and one of the purposes of the Long Range Program is the development c Reservation resources to the greatest extent possible in order to provide a livelihoo to the greatest possible number of Navajo families.

A Long Range appropriation of $9,000,000 in this category was authorized b Congress to (1) prepare surveys and plans for the construction of the propose 137,500 acre Navajo Project, and (2) reconstruct, enlarge and supply additional wate on approximately 70 Reservation irrigation projects to increase the irrigable acreag from 33,000 to 58,000.

Following is a summary of Long Range Appropriations received to date fc irrigation construction and allied purposes:

Authorized appropriation	$9,000,000
Appropriated 1951-54, inclusive	2,050,775
Appropriated 1955	645,000
Total	$2,695,775

Current status of irrigation construction appropriations for fiscal years 1951-54. The followir projects were completed with appropriations received in the fiscal years 1951-54, inclusive:

1. Hogback Project Pumping Plant: Complete. This plant, of 16 cfs., and complete wi distribution system, serves 950 acres, subdivided into 44 new farm units. Cost: $288,938.

2. Fruitland Project Unit No. 4: Complete. The Main canal and lateral distribution syste on this existing project were extended to serve 400 additional acres, subdivided into 20 new far units. Cost $106,010.

3. Choiska Project Reservoir: Complete. The existing reservoir on this project was raised feet, increasing storage capacity to 3,000 acre feet, and providing greater assurance of permane water supply. Cost: $35,800.

4. Many Farms: Complete. The main canal and distribution system serving this existing proje were extended to add 200 acres of farmland. Cost: $69,500.

Irrigation construction, such as the Red Lake Project, converts . . .

Low-production grazing land into rich irrigated farmland.

5. Naschitti and Choiska Projects: Complete. Dams and reservoirs were constructed on Whiskey Creek and Long Lake to provide an additional 5,516 acre feet of water to the Naschitti Project, and 2,015 acre feet to the Choiska Project. Cost $47,000.

6. Ganado-Cornfields Project. Complete. The north side of the existing project was completed with the subjugation of 485 additional acres of land, the farm boundaries were surveyed and corner markers were set on each 20 acre farm unit. Cost: $65,276.

7. Red Lake Project: Complete. Main canal and laterals were excavated and constructed, to serve an additional 800 acres of newly subjugated land. Cost: $147,000. In addition the existing dam was raised 13 feet incerasing capacity to 10,000 acre-feet, and the required spillway, outlet works and feeder canal were installed. Cost: $84,000.

8. Round Rock Project: Complete. The existing project has been repaired at a cost of $21,000, and a reservoir of 1100 acre feet capacity with accessory spillway and outlet works has been constructed at a cost of $31,000.

9. Red House Project: Complete. The diversion dam and outlet on the existing project have been rebuilt at a cost of $8,500, with $12,500 for rehabilitation of the old irrigation system.

THE NAVAJO (FORMERLY CALLED THE SHIPROCK-SAN JUAN) PROJECT

The first field surveys on a proposed Shiprock-San Juan (Navajo) Irrigation Projec to provide a then estimated 122,000 acres of irrigated farm land in northwester New Mexico began in 1945. Subsequently, in 1947 the irrigable acreage was classifie by the U. S. Bureau of Reclamation, and other preliminary work was completed, including the running of canal lines, subdivision of the area by field survey parties, etc

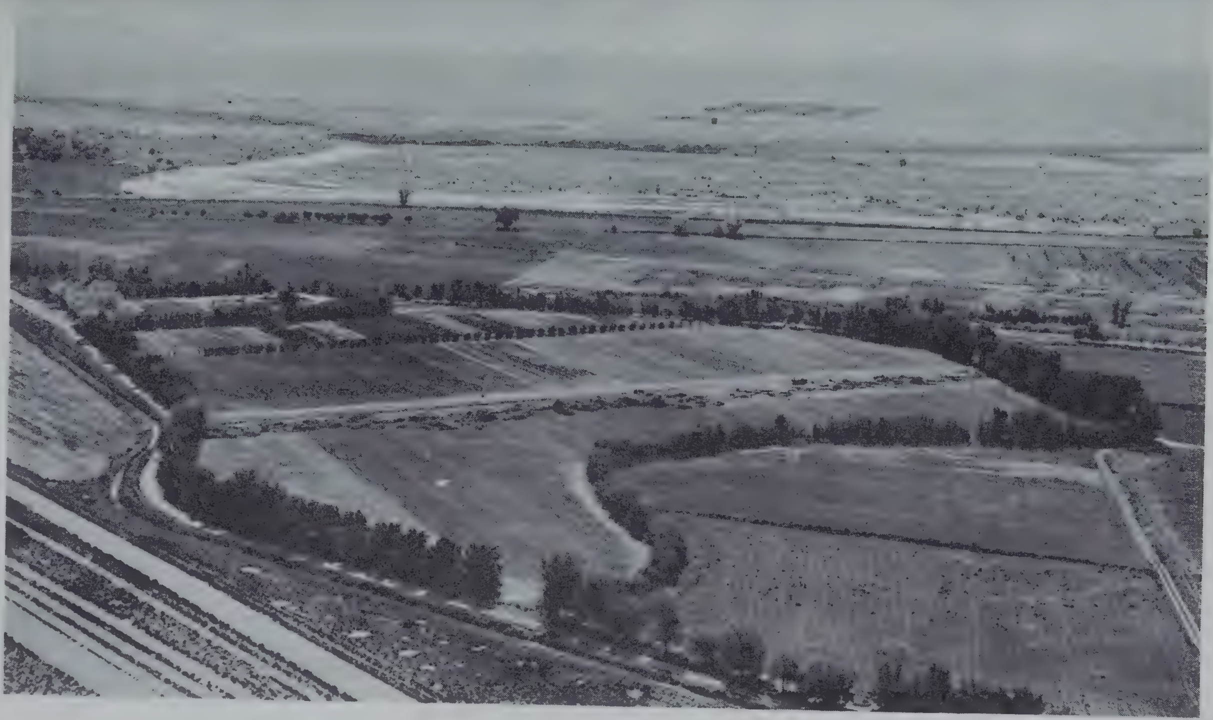
In 1951, the Shiprock Preliminary Report was issued, consisting of a compendiu of factual information gathered from field surveys and other investigations under a inter-Bureau agreement and $71,775 of Long Range funds were transferred to th Bureau of Reclamation for assistance in the surveys, with especial reference to th geologic and materials aspect of the investigation. During the period December 195 to May 1952 photogrammetric engineers developed aerial topography maps for us in further canal alignment surveys.

At present, all required investigations, both office and field, have been carrie out by the Bureaus of Indian Affairs and Reclamation, and the feasibility report ha been completed and submitted to the Department of the Interior. The report i reference indicates the feasibiilty of irrigating 137,500 acres of land on the Navaj Project, divided into 1200 farm units ranging from 90 to 105 acres each, dependin upon the class of land involved.

The following allocations of Long Range funds were made for the purpose o carrying out necessary surveys and investigations with relation to the Navajo Projec

1951	$150,000	1954	$ 75,000
1952	15,000	1955	50,300
1953	60,000	Total	$340,300

The Navajo Project is included as a participating project within the Uppe Colorado River Storage Project for the construction of which congressional authoriz ion was sought last year. A renewed effort, in which the Navajo Tribe is taking a active part, is being made this year to secure congressional sanction for the co struction of the total project.



The upper and lower Hogback Projects
Development of irrigation turns the semi-barren land along
the San Juan River into an area of productive farmland.

Status of construction—(allocations of 1955 Long Range money—

In enacting the 1955 Appropriations Bill, Congress limited the amount of mon available for the purpose of paying the salaries of people to do the work involv in construction projects, thereby obliging the Bureau of Indian Affairs to discontin its "force account" construction (wherein the Bureau hires the labor and does the w itself), to carry out the 1955 construction program through the letting of contra to private agencies. Accordingly, the following contracts have been let:

1. Hogback Project: On August 25, 1954, bids were opened for the construction of the Juan River Siphon and appurtenant works to be constructed for the purpose of providing irrigat water to 1200 irrigable acres of land on the south bank of the San Juan River. To date, with 5 of the contract time elapsed, 78% of the project is complete. Contract price: $288,000.

2. Hogback Project: On October 15, 1954, bids were opened for the installation of prefa cated canal lining on the Hogback main canal. Such lining is essential in those sections of canal which traverse shale and gravel strata to prevent loss of water through seepage. The proj is now complete. Contract price: $60,000.

3. Hogback Project: On December 21, 1954, bids were opened for the construction of main canal and laterals, with subjugation of 1200 acres of land lying on the south bank of the Juan River. The area involved will be divided into 18 farm units of 70 acres each, and the c pletion date is set for June 15, 1955. Contract price: $179,000.

4. Hogback Project: On December 22, 1954, final inspection of the Hogback Main Canal completed, and the construction was accepted. This project completes the first section of ca designed to enlarge and extend the present Hogback canal to serve an additional 11,000 acres land. Contract price: $387,000 (actually allotted from the 1954 appropriation).

5. Red Lake Project: Construction in connection with the subjugation of land and the build of the main canal to serve 300 acres of land on the project in reference was completed insofar the "force account" work was concerned, but the "personal services limitation" carried in the 1 Appropriations Act made it necessary to close the project down until funds are available or u a contract can be let with the contractor using materials supplied by the Federal Government, wh are already available at the project location. Spent to date: $60,000.

Total 1955 construction money spent or allotted to date—$575,000.

ENGINEERING PLANS AND SURVEYS

The work proposed in this connection will include administration of irrigat work on the Navajo Reservation, field surveys, design and specifications in proj planning for future work. Allotted $70,000.

1955 ALLOCATIONS

Construction (Engineering plans and surveys)	$575,000
Navajo Project	50,300
Navajo Miscellaneous Projects	19,700
Total	$645,000

REGULAR APPROPRIATIONS

A total of $205,310 in regular appropriations was made available in fiscal year 955 for operation and maintenance purposes on the Navajo Reservation. The Operaon and Maintenance Program includes:

1. Distribution of irrigation water on the several projects and annual billings to ie water users for water assessments.

2. Maintenance of canals and laterals.

3. Replacement of old wooden structures with concrete on the four projects assified as "operating projects" (so designated because they have an assured water ippply in contradistinction to the remainder of the projects which have an interittent water supply depending on annual precipitation and run-off.

4. Training of Navajo irrigation farmers toward the time when they will assume otal responsibility in project operation and maintenance.

5. ROADS AND TRAILS CONSTRUCTION

LONG RANGE APPROPRIATION

The expressed intent of the Long Range Program was to provide an adequate ad system on the Naveja Reservation as a prerequisite to the development and onservation of Navajo resources, the education of Navajo children and the improveent of Reservation health standards. To accomplish this objective, a total appropriaon of $20,000,000 was authorized in the Long Range Act for the construction of 36 miles of primary road and 633 miles of secondary road.

First priority in primary road construction was given to Route 3, the main highay traversing the Reservation between Highway 666 on the east and Highway 89 n the west via Ganado, Keams Canyon, Oraibi and Tuba City.

Long Range appropriations to date for road construction are summarized hereth below:

Authorization, Long Range Act $20,000,000

	Navajo	**Hopi**
Appropriated, fiscal 1951-54 inclusive	$3,491,054	$1,086,946
Appropriated, fiscal 1955	1,816,000	471,000
Total	5,307,054	1,557,946
Total Navajo and Hopi appropriated	6,865,000	

Undeveloped, inadequate Reservation roads such as the one depicted above cannot meet the requirements of Education and Resource Development on the Navajo Reservation . . .

But new highways, such as this segment ot Route 3, built with funds appropriated under the Long Range Program, will open the Reservation to travel and devlopment, and to a new era for the people.

STATUS OF CONSTRUCTION WORK TO JANUARY 1, 1955 (NAVAJO)

ROUTE 3:	Miles Grade Const.	Miles Base or Gravel Surface	Miles Bit. Surface	Lin. Ft. of Bridge
Tuba City to New Mexico State Line near Window Rock	81.736	75.888	42.098	365
Total Route 3	81.736	75.888	42.098	365
OTHER PRIMARY ROUTES:				
Window Rock to Ft. Defiance	6.662	6.662	6.662	296
South of Chinle	7.925	7.925	....	......
Route 1—Tuba City west	4.730	....	....	......
Total Other Primary	19.317	14.587	6.662	296
SECONDARY ROUTES:				
Hunters Point	4.506	4.506	....	127
Total Secondary	4.506	4.506	....	127
ACCESS ROADS:				
Cove Road	45.0*	41.0	....	......
Mexican Water	30.0	30.0	....	......
Monument Valley	19.0	19.0	....	......
Lukachukai Saddle	8.0	....	....	......
Total Access	102.0*	90.0*	....	......
TOTALS	207.559	184.981	48.760	788
Completed on Long Range	140.559	129.981	48.760	788

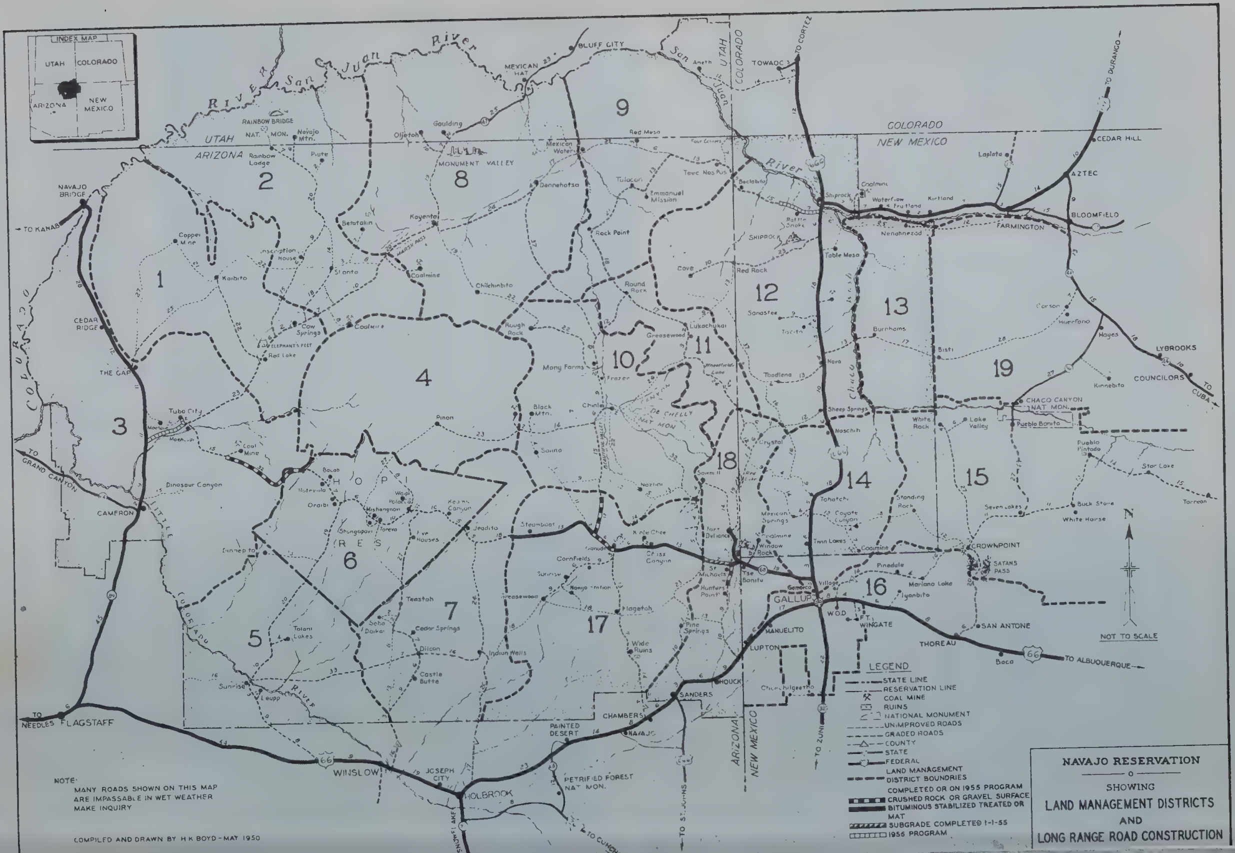
* Includes 35.0 miles on Long Range Secondary System.

With the completion of the 1955 road construction program, Route 3 will be virtually a through highway, permitting high speed travel east and west across the Reservation.

In addition to construction on Route 3, a total of 102 miles of access road has been constructed, 35 miles of which are part of the proposed Long Range road system, with funds certified by the Atomic Energy Commission to the Bureau of Indian Affairs through the Bureau of Public Roads.

The personal services limitation contained in the 1955 Appropriations Act obliged the road construction program to go to contract in lieu of force account, with a delay of approximately 3 months to allow the redrafting of plans and specifications for bid, and reapproval by the Bureau of Public Roads.

The 1955 Long Range appropriation will be used for contract work on sections of Route 3 which were incomplete at the time personal services funds were depleted n December of 1954, and for portions of Route 1, between Shiprock and Tuba City ia Kayenta.


INDEX MAP
UTAH
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San Juan River
San Juan River
Colorado River
Little Colorado River
Chaco Wash
RAINBOW BRIDGE NAT. MON.
Navajo Mtn.
Rainbow Lodge
Piute
NAVAJO BRIDGE
TO KANAB
Copper Mine
Kaibito
Inscription House
Sł onto
Betatakin
Kayenta
MARSH PASS
Coalmine
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BLUFF CITY
Mexican Water
Dennehotso
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Four Corners
Teec Nos Pos
Tolocon
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Round Rock
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SHIPROCK
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Red Rock
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Nava
Table Mesa
Coalmine
Waterflow
Fruitland
Kirtland
Nenahnezad
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BLOOMFIELD
AZTEC
CEDAR HILL
Laplata
TO DURANGO
COLORADO
NEW MEXICO
Burnhams
Bisti
Carson
Huerfano
Hayes
Kinnebito
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TO CUBA
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Sheep Springs
Naschiti
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Coyote Canyon
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Fort Defiance
Window Rock
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Gamerco
Village
GALLUP
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FT. WINGATE
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Mariano Lake
Iyanbito
CROWNPOINT
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Seven Lakes
Buck Stone
White Horse
Star Lake
Torreon
Pueblo Pintado
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TO CONCHO
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WINSLOW
FLAGSTAFF
TO NEEDLES
Steamboat
Ganado
Kinlichee
Cross Canyon
Cornfields
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Greasewood
Klagetoh
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Jeddito
Keams Canyon
Five Houses
HOPI RES
Bacab
Hotevilla
Oraibi
Walpi
Polacca
Mishongnovi
Shungopavi
Toreva
Teastoh
Seba Dalkai
Cedar Springs
Dilcon
Castle Butte
Tolani Lakes
Sunrise
Leupp
Tinnep to
N
NOT TO SCALE
LEGEND
STATE LINE
RESERVATION LINE
COAL MINE
RUINS
NATIONAL MONUMENT
UNIMPROVED ROADS
GRADED ROADS
COUNTY
STATE
FEDERAL
LAND MANAGEMENT DISTRICT BOUNDRIES
COMPLETED OR ON 1955 PROGRAM
CRUSHED ROCK OR GRAVEL SURFACE
BITUMINOUS STABILIZED TREATED OR MAT
SUBGRADE COMPLETED 1-1-55
1956 PROGRAM
NOTE:
MANY ROADS SHOWN ON THIS MAP ARE IMPASSABLE IN WET WEATHER MAKE INQUIRY
COMPILED AND DRAWN BY H.K BOYD - MAY 1950

NAVAJO RESERVATION

SHOWING

LAND MANAGEMENT DISTRICTS AND LONG RANGE ROAD CONSTRUCTION

REGULAR APPROPRIATIONS

A total of $222,445 was made available in the 1955 regular appropriation for naintenance purposes on more than 2,300 miles of Navajo Reservation roads, 1,610 niles of which are primary road, and the remainder of which is secondary.

6. SOIL AND MOISTURE CONSERVATION AND RANGE IMPROVEMENT WORK

LONG RANGE AND REGULAR APPROPRIATIONS

In the formulation of the Long Range Program, the fact was recognized that the nge resource on the Navajo Reservation is one of primary economic importance. he reservation grazing land can support an estimated 512,922 sheep units of stock rovided that range improvements, including stock water, can be developed to fa- litate proper distribution. The 480,853 sheep units of stock currently carried on the avajo range are unequally distributed among approximately 8,000 permittees, to ovide a livelihood to a relatively few families and a supplemental source of income a majority of the stock owners. Actually, fewer than 200 families own in excess 250 sheep units of stock, and Long Range planning looked toward the eventual adjustment of livestock permits to provide an economic unit of not less than 250 eep units of stock to each permittee, with reduction of the total number of per- ittees from approximately 8,000 to about 2,000.

Regardless of the stock ownership pattern, grazing remains an important industry the Navajo Reservation. There is a great need to distribute the stock evenly over e range, and to carry on a program designed to conserve Reservation soil and oisture, to halt erosion and to improve the total agricultural resource.

To this end, the Long Range Act authorized an appropriation of $10,000,000, which $2,576,580 has been appropriated through fiscal year 1955. To this sum added a smaller annual appropriation of regular funds for soil conservation work, d from the total received, a portion is allocated to the water development aspect the total program. The following summary sets forth the status of appropriations date.

Fiscal Year	Regular Appropriation	Long Range Funds	Total
1951, 1952 & 1953	$1,158,540	$1,408,300	$2,566,840
1954	495,220	648,500	1,143,720
1955	495,220	519,780	1,015,000
Total	$2,148,980	$2,576,580	$4,725,560

The cutting of deep washes. with attendant waste of precious topsoil and water . . .

Is prevented by Soil and Moisture Conservationists who, in collaboration with Navajo communities, build water spreaders, dikes and other structures to save the soil and water.

The Soil Conservation Program: The program of soil conservation on the Navajo eservation is a cooperative effort involving the Navajo people themselves, both in erms of direct appropriation of Tribal funds ($70,000), and in terms of participation n the Agricultural Conservation and Stabilization Program. The total program involves onstruction of dykes, jetties, diversion dams, water spreaders, ponds and charcos; nd levelling, contour plowing, tree planting, brush eradication, seeding, soil and ther surveys, land classification, educational activities, etc. With relation to these ctivities the Bureau of Indian Affairs provides technical and material assistance to upplement the resources of Indian land users. A major objective is the control of rosion to save the soil and to increase the productivity of the Reservation. The lavajo land users contribute about twice the Federal expenditure in labor, materials nd cash. For example, in fiscal year 1954, the total value of Navajo participation ncluding direct contributions on the part of the land users, contributions earned hrough the ASC, and contributions from tribally appropriated funds) was $933,459. is estimated that, through the cooperative measures in reference, the Federal funds ppropriated in fiscal year 1951-54 have been sufficient to complete about $5,000,000 orth of conservation projects.

The total allocation of amounts available for the Soil and Moisture Conservation rogram broken down by the regular programmed amount allocated prior to the nactment of the Long Range Act, and the amount chargeable to the authorizations ontained in the Act is as follows:

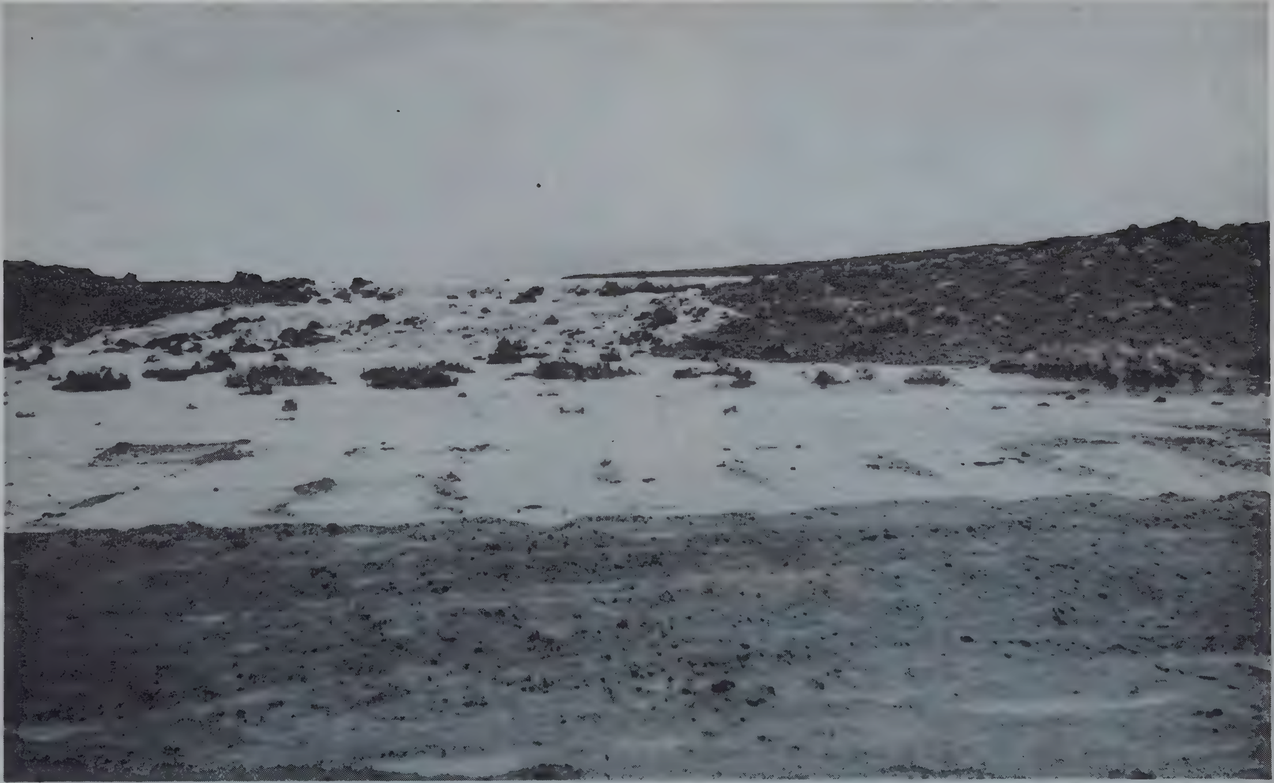
Fiscal Year	**Regular Appropriation**	**Long Range Funds**	**Total**
1951, 1952 & 1953	$555,100	$ 908,300	$1,463,400
1954	193,500	398,500	592,000
1955	193,500	373,500	567,000
Total	$942,100	$1,680,300	$2,622,400

Range Water Supply: The development of range water is financed partially by ong Range funds appropriated for the Soil and Moisture Conservation and Range nprovement Program, and in part by funds made available in the regular appropriaon for well drilling.

Total amounts allocated for range water activities are as follows:

Fiscal Year	**Regular Appropriation**	**Long Range Funds**	**Total**
1952 & 1953	$ 603,440	$500,000	$1,103,440
1954	301,720	250,000	551,720
1955	301,720	146,280	448,000
Total	$1,206,880	$896,280	$2,103,160

A yearly advance of funds is made to the U. S. Geological Survey for water ploration and location purposes, and all wells are drilled on the basis of the recomendation and approval of that organization.



Water spreaders distribute the water over a large area and prevent it from cutting gullies and washes.

The 1955 program includes the drilling of 25 additional range water wells, specifications for 22 of which have already been submitted to the General Services Administration. Approval for the issuance of contracts for 19 of the wells in reference has been received, with drilling estimated at a total cost of $95,000.

Tribal well drilling program: The Navajo Tribe, recognizing the urgent need for range water development, has thrice appropriated Tribal funds in the amount of $250,000, or a total of $750,000. Tribal appropriations for this purpose were made in the fiscal year 1951, 1954 and 1955.

During the fiscal years 1951-54, inclusive, 42 wells were financed from Tribal funds, of which 9 were test holes drilled in order to determine the quantity and quality of water available in certain areas.

The Tribal wells are also drilled on locations approved by the U. S. Geological Survey.

The 1955 Tribal appropriation will be used for the purpose of drilling approximately 25 wells, for 2 of which bids have been submitted. Bids for construction of the remainder will be submitted as soon as the proposed locations are approved.

The following summary presents detailed up-to-date information relative to range water developments during the period fiscal year 1951-55, inclusive.

NAVAJO WELL PROGRAM

DISTRICT	Drilled by Navajo Tribe 1951	1954	Drilled by Government 1950	1951	1952	1953	1954	Programmed for 1955 Government	Tribe	Total Wells Completed and Programmed F.Y. 1950-1955
1	1	0	1	2	2	1	5		2	12
2	1	1	2	2	1	0	2		0	9
3	2*	0	1	1	2	3	3	8	1	12-2*
4	1	2			3	1	4	0	1	11
5	1	0			1	2	1*	4		5-1*
7	1	0			3	1	4*	5		9-4*
8	1	0			2	1	3	5		7
9	1	1			2	1	1			6
10	1	5			2	1	5			14
11	1	0			1	1	2			5
12	1	1			2	1	4*			9-4*
13	1	0			2	1	0			4
14	2	0			1	1	1			5
15	1	0			1	1	1			4
16	1	1		1	1	1	2			7
17	2*	4*		1	1	1	4*			13-11*
18	1	2			1	3	1			8
19	1	0				2	1			4
Ramah	1	1				1	0			3
Canoncito	1	0				1	1			3
Puertecito	1*	0				2*	1			4-3*
							(To date)	22	4	
							(Proposed)	3	21	50
OTALS	24	18	4	7	28	27	46	25	25	204

*Denotes Test Roles

One of the 130 range water wells developed at strategic points over the Navajo Reservation by the Federal Government and the Navajo Tribe.

Forestry and Range Management: Neither of the activities in reference receives any direct appropriations or allocations of Long Range funds. They operate with money made available under the regular appropriation or with Tribally appropriated funds, receiving a total of $94,523 in federally appropriated money for fiscal year 1955. Their function is described briefly below:

Forestry: The Bureau of Indian Affairs exercises, through the Forestry Unit, responsibility for the protection and management of timber resources on the Navajo Reservation, on a sustained yield basis. The activity involved includes protection against fire, disease and other hazards; regulation of the timber cut to assure continuous production, and the reforesting of cut-over areas.

During the period 1950-1952, a forest survey of timber lands on the Chuska Mountains was completed, culminating in the development of a master forest management plan for the harvesting of timber on a sustained yield basis in that large and virgin area. The survey was financed with Long Range and Tribally appropriated funds.

The Navajo Tribe, vitally interested in the development of all accessible timber resources on the Reservation, further appropriated a fund of $32,000 to retain the services of two private timber and sawmill consultants to develop working plans in connection with logging, marketing and manufacturing.

The extent of the Tribal timber operation, in terms of the present mill located at Sawmill, Arizona, is reflected in the fact that, during calendar year 1954, 13,940,000 board feet of ponderosa pine timber was logged on the Fort Defiance Plateau, and during the same period the Tribal Sawmill produced a total of 14,459,000 board feet of lumber. The mill is operated by the Tribe, under supervision provided by the Bureau of Indian Affairs.

Since 1951, the Navajo Tribe has appropriated a total of $184,615.00 to finance fire presuppression and forest management activities. These include:

Fiscal Year 1951	Timber inventory	$ 30,000
1952	Fire presuppression	17,000
1953	Radio communication system	34,000
1953	Fire presuppression	17,000
1953	Timber inventory	10,000
1954	Fire presuppression	22,207
1955	Fire presuppression	26,908
1955	Consultant services	32,000
	Total	$184,615

Range Management: The Bureau activity in connection with management of the Reservation grazing land receives no Long Range Appropriation, and is largely concerned with the exercise of Federal responsibility for the protection of the range resource, to assure its use on a sustained yield basis. Range management is closely coordinated with the Forestry operation, and is financed from a portion of the regular

Forestry appropriation. Aside from the grazing resource proper, Range Manageme has responsibility for fish and wild life protection, and for the control of rodents a predators on the Reservation.

In discharging its responsibilities with regard to range management, the Bure Unit concerned works very closely with the Navajo Tribe through the District Grazi Committees. The latter was established in May, 1953, by the Tribal Council and a supported by Tribally appropriated funds. The Grazing Committees collaborat with the Range Management Unit to revise the Reservation grazing regulations, a the Committees assume primary responsibility in the transfer and allocation of grazi permits which are subsequently processed and maintained in a master file, co taining approximately 8,000 permits, by the Range Management Unit.

To provide basic information necessary to the Grazing Committees and to t Federal Government, Range Management conducts annual range utilization studi assembles a yearly livestock inventory, and performs other technical work basic the establishment of carrying capacities and to the management of the grazing r source.

Extension: The extension services provided by the Bureau of Indian Affairs a financed in the regular appropriations, and the activity is not an aspect of the Lo Range Program. An appropriation of $138,255 was made available for Extension wo on the Navajo Reservation in fiscal year 1955.

The Unit is principally concerned with the improvement of agricultural metho among Navajo farmers and stock raisers to increase the unit production and t economic value of all crops and livestock produced, and to thus raise Reservati income and living standards. The program is chiefly an educational effort, parallel to some extent by the County Extension Services maintained for non-Indian popul tions by the Department of Agriculture and the State Land Grant Colleges. In fa in keeping with policies aimed at elimination of duplication in services provided agencies other than the Bureau of Indian Affairs, and as a step toward greater int gration of Indian groups with the non-Indian population in the States wherein th reside, plans are under way to effect the transfer of Bureau Extension Services to t states for administration through the County Extension Agencies or otherwise.

Recent activities and services provided by the Bureau Extension Service includ

1. Vaccination of 430,000 head of Reservation sheep during the summer 1954 to immunize the animals against a serious disease affecting sheep, known Bluetongue. The work was carried out under the supervision of Navajo Agency Exte sion personnel, and was financed by the Tribal Council with an appropriation of $10,0 of Tribal funds. It was a joint project involving the Navajo Tribe, the Bureau of Indi Affairs, Navajo stockmen, and veterinarians from the Agricultural Research Servic of the Department of Agriculture. The immunization program assured Navajo stoc raisers of a market for their fall lambs which might have been seriously reduced, if n eliminated, if the lambs were diseased. To forestall the occurrence of any future e demic of Bluetongue on the Navajo Reservation, an educational program is under w among Navajo stockmen, conducted by the Bureau Extension Service to acqua them with the disease and its control.

2. For several years, the Bureau Extension Service has carried on an educational program for the improvement of Reservation wool, partly through the medium of selective breeding; partly through instruction in the proper shearing and preparation of fleeces. Such practices as the latter command a higher price for the wool on the market. As a medium for selective breeding, the Bureau Extension Service established ram pastures and assisted Navajo stockmen to obtain improved rams for breeding purposes. Four ram herds are currently maintained on the Reservation, on a self sustaining basis, financed originally by Federal and Tribal loans.

3. In addition to the services in reference above, the Bureau Extension Unit provides guidance and supervision in dipping and spraying of sheep to eliminate parasites; assists in the holding of organized cattle sales each year; carries on educational activities relating to food storage, pest control, pasture management, range improvement, child care, soil improvement, orchard management, poultry raising, cultivation, home sanitation, gardening, weed control, food preservation, sewing, dressmaking, nutrition, etc. A number of 4-H Clubs are active in Navajo communities.

The Navajo Tribal Council endorsed the proposed transfer of the Bureau Extension Service to the Department of Agriculture or to a State Agency but, realizing that certain needed services presently provided by the Bureau will not be provided after the transfer, the Council has given preliminary consideration to continuing those services with its own resources.

7. DEVELOPMENT OF INDUSTRIAL AND BUSINESS ENTERPRISES

The Long Range Rehabilitation Act authorized an appropriation of $1,000,000 or development of industrial and business enterprises. An appropriation of $52,000 as made annually for each of the years 1951 through 1954 and an appropriation of 10,000 for fiscal year 1955. Thus, appropriations for the five years have amounted o $218,000 or 21.8 per cent of the authorization. The appropriations under this section of the Act are referred to as "grant funds" for use in supplementing financing vailable in the form of loans from the Revolving Credit Fund and tribal contributed apital for use in establishing new business undertakings on the Reservation. Grant unds have been used to help finance special studies, development costs, the cost of ilot and experimental operations, the training of workers, and other extraordinary osts that could not be borne entirely with borrowed capital.

All of the appropriations for the three years, 1951 to 1953, in the amount of 156,000 were made available to the Navajo Tribe to assist in establishing tribal business enterprises. Of that amount, $42,000 remain unexpended but available for use y the tribe under a Grant Agreement executed on June 4, 1953. From the 1954 ppropriation, $3,491 were committed for use on the Hopi Reservation and the alance of $48,509 was allowed to lapse. All of the funds available for fiscal year 955 have been allocated for use on the Hopi Reservation.

The Navajo Tribal Motel at Window Rock, Arizona, does a thriving year-around business.

The Navajo Tribal Motel at Shiprock, N. M., serves the growing San Juan Basin area with its thriving oil, gas and mining industries.

The use of grant funds by enterprises, together with the amount of loan funds and the tribally contributed capital, is shown below:

GRANT FUNDS:

X

Authorization, Long-Range Act	$1,000,000
Appropriated, 1951-1954	208,000
Appropriated, 1955	10,000
	$ 218,000

Program, Fiscal Year 1955: Entire appropriation allocated to Hopi Reservation to assist with business and industrial development.

FINANCING OF TRIBAL ENTERPRISES

	Amount of Credit Funds	Federal Grant Funds	Tribally Contributed Capital	Total
Arts and Crafts Guild	$ 10,000	$ 5,000	$ —0—	$ 15,000
Cement Products Industry	96,000	4,000	16,000	116,000
Clay Products Industry	10,000	9,000	1,000	20,000
Native Materials Industry	3,000	2,000	—0—	5,000
Leather Products Industry	10,000	9,000	—0—	19,000
Pine Springs Mercantile	25,000	2,000	17,000	44,000
Pinon Mercantile	65,000	10,000	—0—	75,000
Ram Herd	9,000	—0—	—0—	9,000
Sawmill Mercantile	57,410	—0—	—0—	57,410
Shiprock Motel Center	90,000	10,000	—0—	100,000
Wagon Enterprise	20,000	—0—	—0—	20,000
Wide Ruins Mercantile	89,000	5,000	4,000	98,000
Window Rock Coal Mine	20,000	—0—	—0—	20,000
Window Rock Motel & Housing	135,175	23,000	—0—	158,175
Wingate Village	22,388	1,000	—0—	23,388
Wood Products Industry	52,000	14,000	—0—	66,000
Wool Textile Industry	25,000	20,000	1,000	46,000
Total	$738,973[1]	$114,000	$ 39,000	$891,973

Held under Grant Agreement	$ 42,000
Hopi Reservation	13,491[2]
Allowed to lapse	48,509
Total	$218,000

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[1] By December 31, 1954, $110,492.25 had been repaid, leaving a balance outstanding of $628,480.75.

[2] Includes $3,491 committed for use during FY 1954 and $10,000 allocated for use during FY 1955.

With employment of a General Business Manager on January 5, 1954, the Navajo ribe assumed operation of existing tribal business enterprises and the responsibility r initiating new enterprises. During the year, contributed tribal capital in the amount f $39,000, and an additional loan of $9,000 were invested in six enterprises that quired supplementary funds. The Cement Products Industry at Shiprock, New lexico, was leased for operation by a private firm. Tentative arrangements were made for lease of Pine Springs Mercantile and Wide Ruins Mercantile. Preliminary drawings and cost estimates were obtained for expansion of the Window Rock Mote enterprise to provide additional space to accommodate tourists and other visitor to the headquarters of the Navajo Reservation.

Repayments on loans to enterprises during the year totalled $34,538.12 applie on principal and $19,781.79 applied on interest.

To assist with management of the enterprises, a Business Management Committee was appointed on August 8, 1953. Membership on the Committee consists of three members of the Navajo Tribe, two from outside the tribe and Indian Bureau, and tw ex-officio members from the Navajo Agency General Superintendent's staff.

8. RESETTLEMENT ON THE COLORADO RIVER IRRIGATION PROJECT

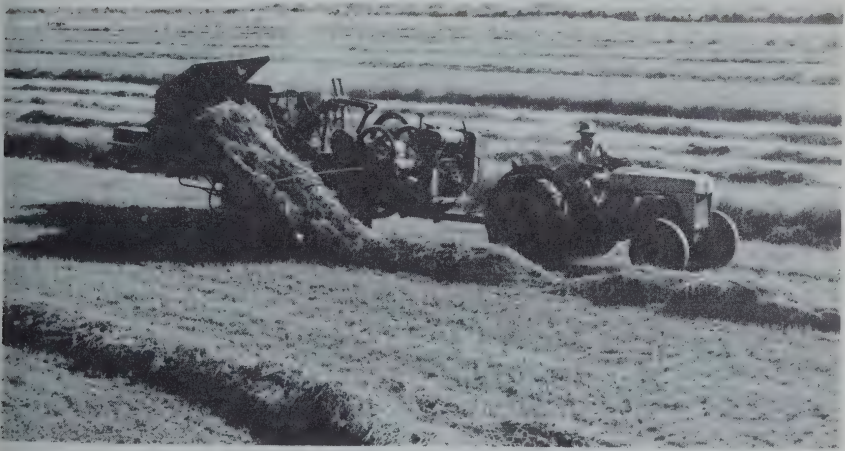
The Colorado River Indian Reservation, located on the east side of the Colorad River, south of Parker Dam in western Arizona, affords an excellent opportunity fo Navajo-Hopi resettlement purposes. The Reservation was established in March o 1865 by Act of Congress for "the Indians of said river and its tributaries," and construction of the first irrigation canal began there in 1867, financed by a federa appropriation of $50,000. In subsequent years small additional appropriations wer made, culminating in 1935 with Congressional action that authorized construction o the Headgate Rock Dam across the Colorado River at a cost of $4,632,775.

On February 3, 1945, the Colorado River Tribal Council adopted Ordinance 5 authorizing settlement of the Southern Reserve portion of the Reservation by othe Indians of the Colorado River and its tributaries, and the first such settlers arrive there on September 1, 1945, in the person of 16 Hopi families.

Long Range planning (the Krug Report) looked to the development of th Colorado River Reservation to its full potential of about 100,000 acres of irrigate farm land, of which 50,000 acres would be set aside for colonization by Navajos an Hopis. On the basis of 40 acres per family, the total area was believed to be capabl of supporting a total of 2,000 families, of which half would be Navajo. The Nava share of the expense of subjugation, reclamation and engineering developments wa placed at $5,750,000, the amount which was subsequently authorized in the Lon Range Act.

To date, a total of $2,494,500 has been appropriated under the Long Rang authorization, including fiscal years 1951-55, with which 11,950 acres of land in th Southern Reserve had been developed at the close of fiscal year 1954 and settle by 111 Navajo and Hopi colonists. However, the acreage under irrigation is only fraction of the total irrigable area, and the terms of the Santa Fe Compact protec

Navajo farmers irrigate their fields at Colorado River to produce . . .



Abundant yields of alfalfa, cotton and other cash crops.

the water rights of the Colorado River Reservation only to 1962. A major problem at present is to provide for the development of the entire area by that date through increased federal appropriations, improvement leases and by other expedients.

In addition to problems of development, there exists a serious problem of land tenure, especially since the Colorado River Tribe has repudiated Ordinanc 5, reversing its decision to permit settlement of a portion of the Rservation by other Indians of the Colorado River and its tributaries.

A joint committee, composed of representatives of the Colorado River Agency, the Colorado River Reservation colonists, the Navajo Tribal Council and the Navajo Agency presently function as a screening board in the selection of new colonists. Every effort is being made to select the best possible candidates, and every effort is being made to solve problems involving training and guidance of the settlers, credit, land tenure, etc.

Costs of production and income are summarized for 1952-53 herewith:

Year	Gross Income	Estimated Cost of Production	Estimated Net Income	Average Net Income per Family
1952	$772,924	$269,541	$503,383	$3,785
1953	782,381	383,076	399,305	3,144

In the above summary, subsistence livestock, garden produce and other crop consumed at home are excluded; only cash income from cotton, alfalfa, grain, winte pasture and livestock are included.

Cash income is not great, but the living standards of the colonists are muc improved over the average Navajo Reservation standards. Food is more plentiful housing is far superior, and educational opportunities are available for the children Taking into consideration the fact that few if any of the colonists have had adequat previous experience and training in the complex techniques of irrigation farming an receive insufficient supervision on the Colorado River due to lack of adequate staff their record is good, and with experience their income should increase materially.

Additional acreages of land have been made ready and the Screening Boar acted in February 1955 to select 7 new colonists from more than 300 applications fo early farm assignments at Colorado River.

The original plan of assignment has been amended to provide 80 acre farm in lieu of the original 40-acre tracts.

The old barracks, used as temporary housing by Navajo and Hopi colonists on the Colorado River Reservation give way to . . .

New modern homes, while the barracks become tool sheds and barns.

9. SURVEYS AND STUDIES

A basic aspect of Long Range planning is the development of Reservation resources to their full potential. In view of the fact that little was known about the resources of the Navajo-Hopi Reservations at the time the Long Range Bill was written, a total of $500,000 was authorized for appropriation to conduct surveys and studies of timber, water, mineral and human resources, as a preliminary to future planning and development. A total of $384,365 has been appropriated to date, in fiscal years 1951-55, inclusive. The appropriations received in this category have been used for the purposes summarized herewith below:

Item	1951	1952	1953	1954	1955	Total
a. Cadastral Survey*	$15,545	$ 1,000	$	$	$	$ 16,545
b. Economic Development		10,000				10,000
c. Topographic Survey*		3,000				3,000
d. Timber Survey		20,000	500			20,500
e. Ground Water Study		10,500	30,700	20,000	15,510	76,710
f. Mineral Resources Survey*		31,500	49,000	50,000		130,500
g. Mineral Resources Survey*		40,000	27,000			67,000
h. Lapse		9,000		6,600		15,600
i. Geologic Mapping*			17,500	20,000	2,000	39,500
j. Wool Scouring Study			300			300
k. Inheritance Records				4,710		4,710
TOTALS	$15,545	$125,000	$125,000	$101,310	$17,510	$384,365

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* Under Contract

a. Cadastral Surveys: The Navajo-Hopi Reservations constitute one of the largest unsurveyed regions in the United States, a fact which currently works to the disadvantage of the uranium mining industry on the Navajo Reservation. The Navajo Tribal Council recently adopted a resolution petitioning Congress for funds with which to carry out a complete cadastral survey of the Navajo country. The $16,545 allotted for cadastral surveys from Long Range appropriations was used to survey and plot townships in the known mineralized areas of the Reservation to facilitate the location of mining claims.

b. Economic Development: An allotment of $10,000 of Long Range money was used for the purpose of carrying out analyses of existing and proposed tribal industrial enterprises on the Navajo Reservation.

c. Topographic Survey for New Sawmill and Community Site: $3,000 of Long Range fund were used, under contract, for a topographic survey and profile relative to an 800 acre sawmil and community site on Whiskey Creek. The mapping is on contour levels of ten feet and include main line features, streams, roads and all prominent land marks.

d. Timber Survey: $20,000 allotted in 1952 and $500 in 1953 were used, in conjunction with $40,000 of Navajo Tribal funds to secure a comprehensive timber inventory of commercial forest on the Navajo Reservation. On the basis of information thus provided a master forest managemen

Since 1923 the development of oil and gas fields on the Reservation has become an important source of Navajo Tribal income.

The new Kerr-McGee Uranium Processing Mill at Shiprock, N. M., completed in the fall of 1954.

plan has been compiled, incorporating the principle of sustained yield in development of polic
controlling the harvesting of tribally owned timber.

e. Ground Water Resources: A total of $76,710 has thus far been made available to
U. S. Geological Survey for the purpose of carrying on a ground water study on the Navajo Res
vation. Stratigraphic studies were completed in September, 1954, and geologic mapping has be
completed. Field sheets in this connection will be completed and transferred to Washington
compilation into an overall geologic map of the Navajo country on a scale of 1:125,000, for inc
sion in the final report.

The well and spring inventory is 95% complete, and static water levels and water samp
have been collected from all wells, and data in this connection are being tabulated for the fi
report. Piezometric maps will be made for the principal aquifers. Chemical analysis of water sa
ples for inclusion in the final report is about 75% complete. Also, about 75% of the hydrolo
data has been compiled and tabulated for the final report.

In connection with the well development program 64 investigation reports have been complet

The first draft of the final report from the U. S. Geological Survey will be compiled in
summer of 1955.

f. Mineral Resources Survey: Under terms of a contract negotiated with the University
State Colleges of Arizona, technicians from those institutions are carrying out a study to detern
the availability, quantity, quality and distribution of mineral resources on the Navajo and H
Reservations. To date, a total of $130,500 has been made available to Arizona institutions to fina
this project. The area under investigation comprises approximately 11,353,513 acres, and the cont
requires the testing and analysis of the various minerals, as well as the preparation of maps
reports covering specific resources.

g. Mineral Resources Survey: Under contract with the New Mexico School of Mines, a mir
resources survey has been completed on portions of the Navajo Reservation in New Mexico
northwestern Arizona, and published under the title "Mineral Resources of the Fort Defiance
Tohatchi Quadrangles, Arizona and New Mexico," (N.M. School of Mines Bulletin No. 36). A
of $67,000 has thus far been provided the New Mexico institution, and the work is continuing.

h. Lapse: A total of $6,600 was uncommitted at the close of fiscal year 1954, and was th
fore allowed to lapse.

i. Geologic Mapping: From a total of $39,500 in Long Range funds, appropriated in
years 1953-55, $22,000 have so far been allotted for purposes of continuing geological stu
mapping, and preparation of reports and maps in the Beautiful Mountain, Shiprock and Frui
areas. The work emphasizes the occurrence and distribution of oil, gas and coal deposits, a
being carried on by the Fuels Branch of the U. S. Geological Survey.

j. Wool Scouring and Processing: The sum of $300 was allotted for an evaluation o
Tribal Wool Scouring and Processing enterprise. As a result of the study by a wool specialist
the Texas Agricultural Experiment Station, the enterprise was discontinued.

k. Survey of Inheritance Records: A total of $4,710 of Long Range Funds was allotted fo
purpose of preparing and bringing Agency files up-to-date in connection with inheritance rec
The work was done by personnel from the Missouri River Basin Investigations Project, who pre
6,100 allotment and estate record cards, in addition to 4,500 cards involving allotments on
trust patents were issued. The records include applications for allotments which were reject
cancelled.

Navajo workers supplement meager Reservation income

by picking cotton in Southern Arizona.

The Baby Board continues to meet a need even under the changed conditions of present-day life.

Each year hundreds of Navajo workers are employed in the carrot fields near Bluewater, N. M.

10. OFF-RESERVATION EMPLOYMENT

Long Range planning took into account the fact that Reservation resources ar not adequate, nor can they be made adequate in the foreseeable future, to suppo the entire Navajo and Hopi population. It was estimated that at least half the pop lation would have to resettle in communities outside the Reservation or supplemen Reservation income by seasonal off-Reservation employment. To carry out the pr gram of off-Reservation placement and relocation, a total appropriation of $3,500,00 was authorized by the Long Range Act. To date the only appropriation made in th category is $194,600 which was made available in 1951 for the construction of Community Indian Center and Clinic at Gallup, New Mexico.

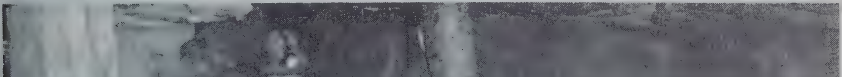
The Gallup Indian Center. The town of Gallup, New Mexico, was an early foc point for Navajo recruitment in connection with off-Reservation employment, as we as a center for Navajo trading and other activity. Moreover, the town is situate close to a populous area of the Reservation. During the early phases of the of Reservation employment program the need was recognized for a transient station, center for information, recruitment and discharge, and for a clinic there. As a resul the Gallup Indian Community Center was constructed. The plant was turned over t a corporation upon completion, which subsequently contracted for its operation wi the Unitarian Service Committee. The clinic operation is contracted to local medic personnel and hospital facilities, and both the Community Center proper and th Clinic have proven to meet a real need as evidenced by their highly successful oper tion. During the past year (1954) more than 17,000 Indians, principally Navajo, utilize the Community Center's bathing facilities. Bathers pay 15 cents per bath, and a provided with soap and a towel. More than 6,000 transients stayed over night at th center last year at a nominal cost of $1.00 per person, and during the same peri there were more than 80,000 visitors (comprising an estimated 15,000-20,000 perso who used the Center for some purpose). The Center rendered emergency financi or other assistance in 736 cases involving over 1,600 persons during 1954, includi assistance to stranded Indian children.

The clinic averaged 32 patients per day during 1954, or about 11,517 duri the course of the year.

In addition to its value in terms of the services outlined above, the Indian Cent also carries on educational programs with relation to health and citizenship, and c tributes in other ways to the well-being of Indians in the Gallup area.

The Placement Program: Initially the Bureau of Indian Affairs operated its o placement program for Indians, contacting potential employers to develop off-Res vation work opportunities, and recruiting employees to fill the positions thus ma available. However, to some degree the activities of the Bureau of Indian Affa in that connection were a duplication of the function performed by the State E ployment Services. As a result, on December 29, 1952, an agreement was work out with the Arizona and New Mexico State Employment Services whereby the lat accepted responsibility for placement of Reservation Indians in seasonal and ot temporary employment, while the Bureau concentrated its attention on a program permanent off-reservation relocation.

For a number of years the railroad industry has been the principal employer of Navajo Indians and an important aspect of Navajo wage economy.



In recent years, with the development of uranium mining on the Navajo Reservation, many Navajos have become miners.

The Relocation Program: No Long Range funds have been made available fo the Relocation Program, and the Navajo Agency Branch of Relocation operates with a regular appropriation, totalling $51,740 in fiscal year 1955, of which $12,000 is fo the assistance of Navajos moving permanently to off-Reservation areas, while the remainder defrays the cost of operation of the Branch.

Although the Navajo people have been reluctant to recognize the need fo emigration from the Reservation homeland, the Relocation Program is steadily gaining momentum. During the calendar year 1954, approximately 550 Navajos left the Reservation for resettlement in other areas. The majority of these persons, most o them families, went to Los Angeles, California, and the remainder moved to Chicago Illinois, or to various points along the Union Pacific and Santa Fe Railway lines.

The Navajo Agency provided a total of $7,200 to defray the expenses of transportation, subsistence and initial rent at the new location to assist the "relocatees" in establishing themselves. About 25% of the Navajos accepting relocation ultimately return to the Reservation for various reasons.

Placement and Earnings: During 1953, available information revealed about 23,500 placements made through the combined efforts of the Railroad Retirement Board, the several State Employment Services and the then Bureau Branch of Placement and Relocation, with an estimated gross income from wages earned by Navajos on and off the Reservation set at $14,500,000. Information available for the calenda year 1954 shows about 17,000 placements, and a gross wage income of $11,000,000

The reduction in employment opportunities owes itself largely to reduced demands on the part of the railroad industry, and to the economic consequences of the termination of hostilities in Korea.

The Apprenticeship and On-the-Job Training Program: At the time of its passage, the Long Range Act contemplated the completion of the school, road, irrigatio and other authorized construction programs under "force account" . . . i.e. the Bureau would employ its own labor and technicians and do the work itself. Recognizin the opportunity presented to train Navajos for future employment in the variou building skills, as well as the opportunity to provide additional income on the Reservation, Congress stipulated that, wherever practicable, Navajo and Hopi Indians were to be given preference in employment on all projects undertaken pursuant to the Lon Range Act, without regard to the provisions of the Civil Service and classificatio laws; and also provided for the establishment of an on-the-job training program i conjunction with Long Range construction activities.

The first enrollment of trainees began in August of 1951, and the program con tinued until October 30, 1954. It was terminated on the latter date, as a result of th decision by Congress to discontinue force account construction by Governmen Bureaus and to provide for necessary federal construction through contract wit private enterprise.

Progress made under the On-the-Job Training Program during the period of its operation is summarized herewith below:

Total Number Applicants Interviewed	Total Number Indentured as Apprentices	Total Number Enrolled as Trainees	Apprentice Completions	Trainee Completion
1,767	91	168	9	13

The 9 apprentices who have completed their apprenticeship have received a certificate of completion from the Federal Committee on Apprenticeship in Washington, D. C. The 13 completed trainees have received a certificate of completion of training granted by the Department of the Interior, Bureau of Indian Affairs.

The Welfare Program: The General Assistance Program, administered by the Bureau of Indian Affairs through the Branch of Welfare, is not supported by Long Range appropriations nor is it an aspect of the Long Range Program. The activity s carried on for the purpose of providing social welfare services required by the Navajo population, and not available from other State or Federal Agencies. It received $295,036 in regularly appropriated funds in fiscal year 1955.

Services provided by the Bureau Welfare Program include general relief assisance, Boarding Home care for abandoned children and orphans, maintenance of hildren in schools for the deaf and blind, services to children in Boarding Schools, nd a Family Counseling service. The Branch of Welfare also cooperates with State Welfare Departments to assist in bringing Social Security benefits to eligible Navajos n the Reservation.

At present, expansion of the Welfare staff and facilities is required if the rogram is to adequately cope with the problem of providing care for the children f tuberculous parents during the hospitalization of the latter in off-Reservation anatoria. In this transition period, with the accelerated tuberculosis eradication proram, increased use of alcohol, and a flood of family problems attendant upon the ocial and economic changes which are taking place in Navajo Society, the provision f an adequate child welfare service is a growing need, and one of paramount importance.

The provisions of the Social Security Act apply to the Reservation, and the rogram involved is administered by the States through their several Departments of ublic Welfare. Section 9 of the Long Range Act provides that federal Social Security unds will be paid to the States to subsidize them in providing Social Security benefits o eligible Navajos and Hopis resident on Reservations or allotted lands lying within he boundaries of the State concerned. Federal aid to the States is authorized in an mount equal to 80% of the State contribution in a preceding quarter for Old Age ssistance, Aid to Dependent Children and Aid to the Needy Blind rendered to avajo or Hopi Indians. Many problems devolving about the legal interpretation of igibility requirements of the Social Security Act in their application to Navajo apicants in their status as members of **Navajo Society** remain to be solved, as do also oblems attendant upon development of a mechanism and techniques adapted to eet the requirements for providing an equitable distribution of Social Security benes on the Indian Reservations. Obviously, the Social Security Act was written to meet the requirements of the more or less homogeneous pattern characterizing t national society as a whole; it could not pretend to incorporate special provisions meet the peculiar requirements of culturally divergent minority groups such as t Navajo and Hopi Indians.

11. TELEPHONE AND RADIO COMMUNICATION SYSTEMS

The Long Range Act authorized appropriation of $250,000 for the purpose improving and modernizing the telephone and radio communications systems on t Navajo and Hopi Reservations, and the total amount authorized was appropriate in fiscal years 1951-53, inclusive.

With the Long Range funds appropriated in fiscal years 1951-53, 5 dial co versions were completed to serve the areas of Keams Canyon, Shiprock, Tohatc Crownpoint and Fort Wingate, and similar projects were initiated at Tuba City ar Chinle to be completed with subsequent regularly appropriated funds. In addition, new radio-telephone transmitting and receiving sets were procured and installed provide emergency communications to outlying areas, additional telephone lines we constructed between Window Rock, Gallup and other points, and certain oth necessary improvements were completed.

In 1954, a regular appropriation of $100,000 was made available to contin the program for modernization of the Reservation telephone system, and $70,0 was again allotted for communications work in 1955.

The funds allotted to Communications from regularly appropriated money a not used for maintenance and operational purposes; maintenance and the operati expenses are paid from IMPL funds derived from the government and non-governme users of the telephone system. Similarly, the cost of maintenance of the radio equi mente is borne by the users.

In terms of facilitating the operation of schools, hospitals and other Reservati institutions, and in the interest of Civil Defense, an adequate communication syste covering the Navajo country is a matter of first importance.

12. REVOLVING LOAN FUND

The Long Range Act authorized the appropriation of $5,000,000 for the estabshment of a Revolving Loan Fund to meet the credit requirements of Navajo and Hopi Indians in financing productive self-supporting enterprises.

Authorization, Long Range Act	$5,000,000
Appropriated, 1952 and 1953	1,800,000
Appropriated, 1954 and 1955	—0—
Total Appropriation	$1,800,000

From the above appropriations, $700,000 were borrowed by the Navajo Tribe or use with supplemental Tribal funds, in establishing a Revolving Credit Program. he latter provides productive loans to individuals, and assists in the financing of tribal nterprises. $300,000 were committed to the Hopi Indian Credit Association for oans to individuals, and of the residue a portion was used to finance Navajo and Hopi settlers on the Colorado River Indian Reservation.

By June 30, 1954, 704 loans had been made from the Navajo Revolving Fund to dividuals. These loans are summarized according to purpose herewith below, totalling 04 loans because, in some cases, one loan covered more than one purpose:

Purpose	Number	Amount
Seed	134	$ 14,304.43
Feed	208	38,553.40
Subsistence	2	650.00
Other nonrecoverable items	33	10,825.92
Machinery	148	126,448.78*
Livestock	42	28,490.00
Permanent improvements	27	34,761.08
Land	4	26,600.00
Education	119	52,843.55
Refinancing	44	34,795.29
Other recoverable items	43	93,719.03**
Total	804	$461,991.48

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* Includes loans for commercial trucks, farm tractor.

** Includes loans for purposes such as coal mines, trading posts, cafes, etc.

addition, $738,973 has been used to finance tribal enterprises.

Due partly to a continuation of drought conditions on the Navajo Reservation, ny of the individual borrowers became delinquent in repayment of loans. During 54, approval of new loans was restricted to those made for educational purposes, ew emergency type loans to individuals for productive enterprises, and one tribal erprise loan pending improvement in collection of delinquent accounts. Funds advanced on loans during the year amounted to $14,187.62. Repayments on loans durin the year, in the form of both principal and interest, amounted to $64,045.78 fro individual borrowers and $54,319.91 from tribal enterprises. On December 31, 195 there remained 247 loans outstanding with an unpaid balance of $146,295.24, an the balance owed on 19 loans to tribal enterprises was $628,480.75.

Assistance and encouragement was given to deserving Navajo families in obtai ing financial assistance from off-Reservation sources, and the Navajo Tribal Counc has under consideration a number of proposals for reorganization of the Revolvin Credit Program designed to facilitate the servicing of loans and reopen the loa program.

13. HOUSING AND NECESSARY FACILITIES AND EQUIPMENT

The Long Range Act authorized the appropriation of $820,000 for this activit However, of this authorization, only $26,300 has so far been appropriated, and th sum was allocated to the Colorado River Resettlement program for the developme of resettlement housing. These funds were used to remodel old barracks buildings temporary quarters for Navajo and Hopi families who are farming land on th Colorado River project. From this makeshift housing, they move into their own hom on their allotments.

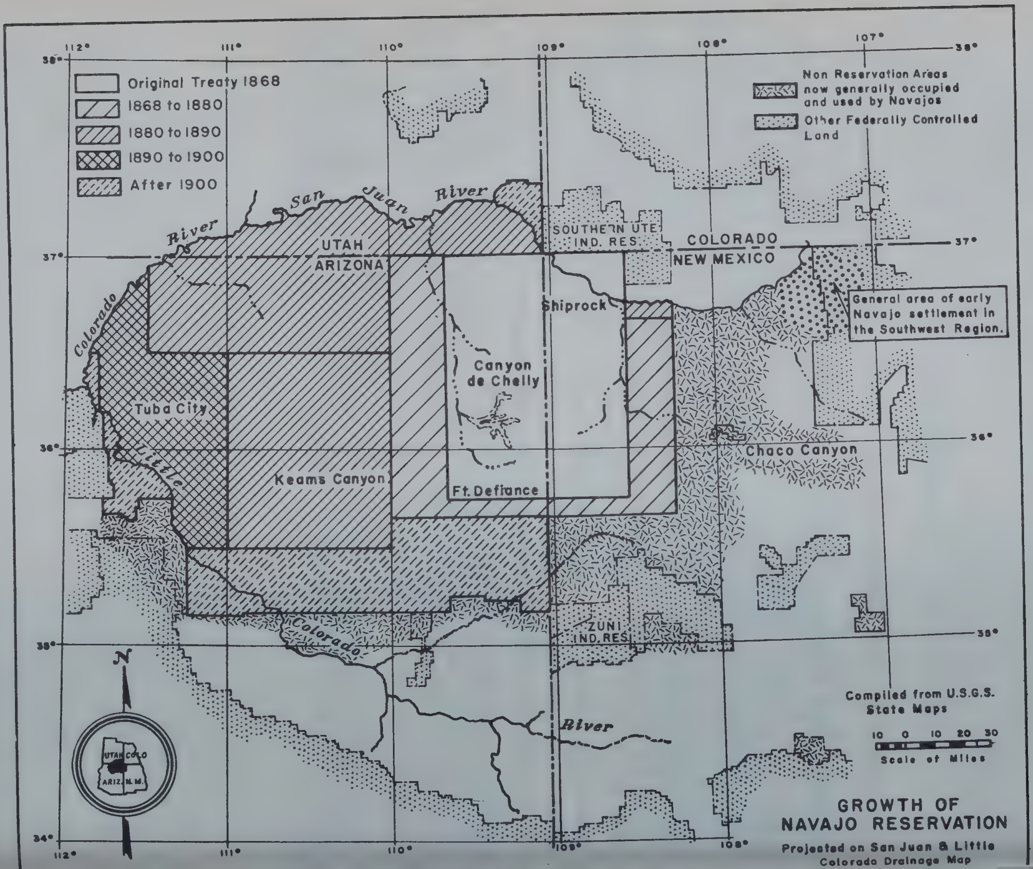
14. COMMON SERVICE FACILITIES

The Long Range Program authorized the appropriation of $500,000 for the co struction of warehouses, garages and other facilitating services required in carryin out the Long Ronge Program. Of the authorized total, $495,100 was made availab in fiscal years 1951 and 1953, and the appropriations were used for the constructio of a large warehouse in Gallup, New Mexico, and a warehouse and garage at Kean Canyon, Arizona. The Gallup warehouse cost $345,100, and is presently operated b the General Services Administration; the Keams Canyon construction was complete at a cost of $150,000.

APPENDIX

The appendix presented herewith contains general descriptive information relative o the Navajo people and their Reservation, as well as specific statistical information elative to health, education, resources and economy. In compiling the appendix, use vas made of reports, tabulations and estimates, contained in the Agency files, and leveloped over the course of several decades by technicians who have worked on he Navajo Reservation. It is to be noted that, in some instances, such as the acreages f the several Land Management Districts, there are small discrepancies among dif-erent tables containing that information. Such discrepancies reflect estimates made y different technicians over the course of years and, since the Reservation is almost otally unsurveyed, figures relative to acreages must remain estimates. In some in-tances discrepancies of this type have been noted; in others they have not received omment or explanation. We have attempted to provide information contained in ur files and records, of interest and use to the public, but not hitherto generally vailable, in the belief that such data might be of use to readers interested in the avajo as a basis upon which to build a better understanding of Navajo social and conomic problems, and of the programs developed and carried on to cope with ese problems.

The tables will be brought up to date in subsequent editions of the Navajo Year-ook of Planning in Action, and additional information may be developed and in-uded.


112°
111°
110°
109°
108°
107°
38°
37°
36°
35°
34°
Original Treaty 1868
1868 to 1880
1880 to 1890
1890 to 1900
After 1900
Non Reservation Areas now generally occupied and used by Navajos
Other Federally Controlled Land
San Juan River
River
UTAH
ARIZONA
COLORADO
NEW MEXICO
SOUTHERN UTE IND. RES.
General area of early Navajo settlement in the Southwest Region.
Shiprock
Canyon de Chelly
Chaco Canyon
Tuba City
Little
Colorado
Keams Canyon
Ft. Defiance
ZUNI IND. RES.
Colorado
River
N
UTAH
COLO
ARIZ.
N.M.
Compiled from U.S.G.S. State Maps
10 0 10 20 30
Scale of Miles

GROWTH OF NAVAJO RESERVATION

Projected on San Juan & Little Colorado Drainage Map

THE NAVAJO COUNTRY

The following description of the geography, soil, climate and vegetation of the Navajo country is adapted from an excellent report compiled in 1941 by Mr. Paul Phillips of the Navajo Agency, and entitled "General Statement of Conditions in the Navajo Area."

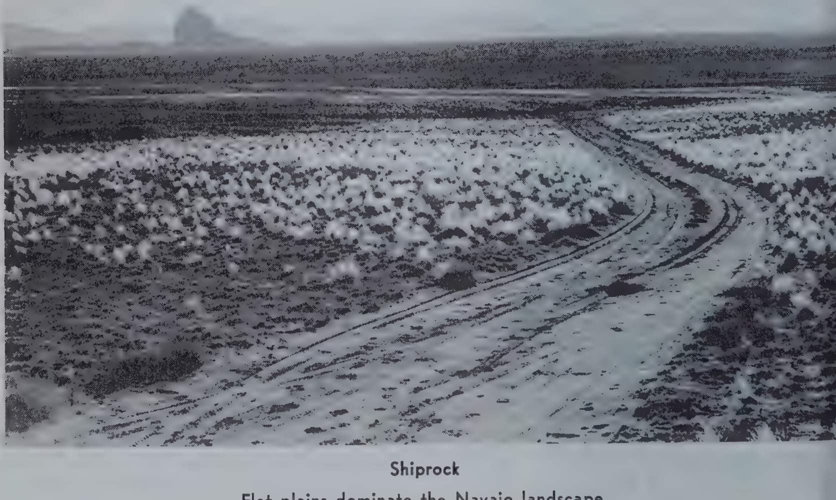
PHYSIOGRAPHY: The Navajo Area includes all of the Navajo and Hopi ndian Reservations (totaling 15,087,163 acres or 23,574 square miles) within the present legally described boundaries. The area straddles almost the entire length of the divide separating the watersheds of two of the Colorado River's most important tributaries—the San Juan and the Little Colorado—and extends northward from this divide across the flood plain of the San Juan between Fruitland, New Mexico, and Montezuma Creek below Aneth, Utah, and southward across the flood plain of the Little Colorado at Leupp, Arizona. The divide between these two systems describes a tortuous course running diagonally across the area in a northwesterly direction from the southeast corner, beginning at a point about 40 miles from the Continental Divide, and splitting north of Tuba City to cut off a series of smaller watersheds draining directly into the Colorado River. Approximately 6,561,000 acres (44%) drain into he San Juan; 7,375,500 acres (49%) drain into the Little Colorado, and 1,150,600 acres (7%) drain directly into the Colorado River. The area includes about two fifths each of the San Juan and Little Colorado River systems which, together with the Virgin River, drain about 65,000 square miles and, while contributing only 10% of he water of the Colorado, produce 75% of the silt. The Navajo constitutes 36% of his critical area and, therefore, occupies the most important western watershed position.

The surface of the Navajo area includes four principal features: 1. The flat alluvial valleys at elevations from 4,500 to 6,000 feet; 2. The broad, rolling upland plains between 5,500 and 7,000 feet; 3. The mesas located at elevations of 6,000 to ,000 feet; and 4. The mountains ranging from 7,500 to over 10,000 feet in altitude. Each of these four major types is cut by canyons of a few hundred feet to more than ,000 feet in depth and is broken by prominences rising as high as 1,500 to 2,000 eet. Most of the Navajo-Hopi area lies between elevations of 5,000 and 7,000 feet.

There are three outstanding highland provinces, namely the combined Chuska-Carrizo Mountain range, the Black Mesa, and Navajo Mountain.

The combined Chuska-Carrizo chain forms a long range extending across the astern portion of the reservation in a north by north-westerly direction. The tops of hese mountains are alternately broken, with flat plateaus situated at altitudes of 8,000 to 8,800 feet, from which ridges and buttes rise still higher to elevations up to 9,500 eet. Along the eastern slope of the Chuskas between 7,300 and 7,800 feet lies a narrow level bench below which is a rough and severely dissected slope extending downward to the plains below. The bench becomes more broken at the southern extremity and ontinues around to the north and west of Mexican Springs, somewhat narrowed, to reak away southward in the form of rough wooded hills. To the east these hills meet

Navajo Mountain
High mountains, broad mesas, and . .



Shiprock
Flat plains dominate the Navajo landscape.

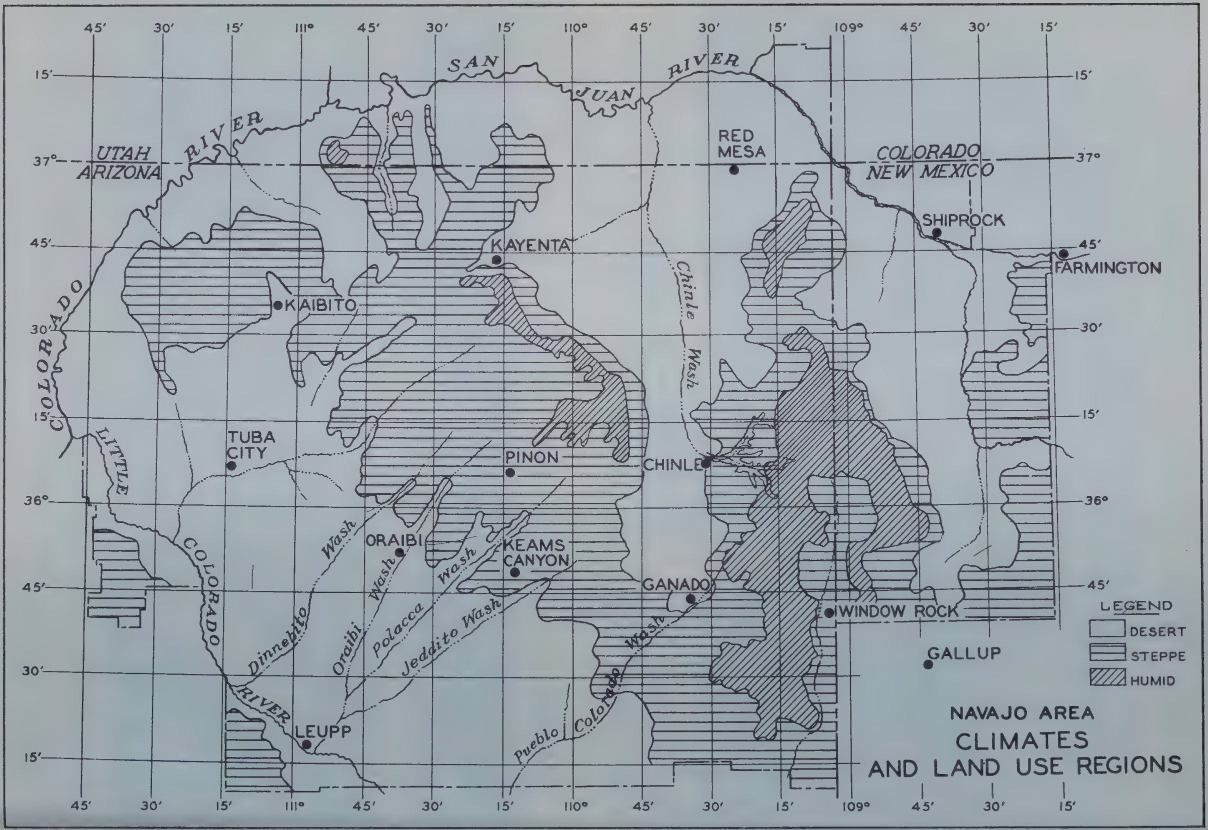
a high plateau known as Mesa de Los Lobos. The slope is made up of a series of exposed strata of sandstone, conglomerate, shale and igneous rock from which springs, fed principally by snow water deposited in mountain lakes, break forth.

Black Mesa is an island prominence about 250 miles in circumference located almost exactly in the center of the Navajo-Hopi area. The northern and eastern escarpments are precipitous cliffs rising 2,000 feet above the plain, from which the mesa top slopes gradually away to the southwest. Streams draining the mesa reach almost to the very edge of the escarpments, heading in an extremely rough and broken country with steep slopes and narrow canyons. The main drainages flow between southwesterly aligned ridges and mesas, dissected by numerous canyons and small side valleys, which break up further to the south and southwest, the ridges ending in finger-like projections. Three of the latter are the first, second and third mesas of the Hopi country.

Navajo Mountain, located in the extreme northwestern portion of the reservation, is the third most important prominence. It is a lone peak rising 5,000 feet above the surrounding plains to an elevation of 10,416 feet, the highest point of the Navajo area. In this portion of the reservation, broad, rolling, broken plateaus extend from the Echo Cliffs in a curving northeasterly direction around Black Mesa and across Chinle Valley. Paralleling this belt on the north is another wide strip of country, extremely rugged and barren, with high broken mesas and deep canyons; probably the most inaccessable part of the entire reservation, it extends from Echo Cliffs to Chinle Wash. Because of the excessive drainage due to numerous falls and deep canyons, it is practically impossible to obtain water in this area by drilling wells. There is a number of springs along the cliffs and in the heads of the canyons.

CLIMATE: It is well known that in mountainous country climate is determined largely by elevation and topography, factors which partially subdue the influence of latitude. Increased humidity at high altitudes may bring about the development of transitional-zone plant associations, while air drainage, sub-irrigation, and northern exposure may produce similar associations in the heads of canyons 3,000 or 4,000 feet lower down.

There are three distinct climates within the Navajo area: 1. The cold humid climate of high altitudes, including the upper elevations of the Chuska and Carrizo Mountains, the Fort Defiance Plateau, a strip along the northern and eastern escarpments and the highest ridges of Black Mesa, the top of Navajo Mountain, and several small areas located in the heads of some of the canyons in the Tsegi country and northwestern part of the reservation; 2. The intermediate steppe climate of the mesas and high plains, including belts along mountains, foothills, the high portions of the Chaco and Chinle plains, Black Creek Valley, a large part of Black and Balakai Mesas and adjacent mesas of similar elevations, and the areas of the vicinity of Inscription House, the plateaus above the Tsegi canyons, Piute Mesa, Mormon Ridges, and Preston Mesa; and (3) the comparatively warm desert, including the lower portions of the Chaco and Chinle valleys and all the southern, western, and northwestern parts of the reservation. Of the entire area of 23,574 square miles, 1,760 square miles 8%) is classed as humid; 8,748 square miles (37%) as steppe, and 13,066 square miles (55%) as desert.



NAVAJO AREA

CLIMATES AND LAND USE REGIONS

LEGEND
DESERT
STEPPE
HUMID
SAN JUAN RIVER
COLORADO RIVER
LITTLE COLORADO RIVER
UTAH
ARIZONA
COLORADO
NEW MEXICO
RED MESA
SHIPROCK
FARMINGTON
KAYENTA
KAIBITO
TUBA CITY
PINON
CHINLE
Chinle Wash
ORAIBI
KEAMS CANYON
GANADO
WINDOW ROCK
GALLUP
LEUPP
Dinnebito Wash
Oraibi Wash
Polacca Wash
Jeddito Wash
Pueblo Colorado Wash
111°
110°
109°
37°
36°
45′
30′
15′

The three climates, though markedly different and distinct in many respects, are not separated by fixed or sharply drawn lines except where divided by wide differences in elevation. Desert merges into steppe and steppe into humid, with certain characteristics, such as wide daily, monthly, and yearly fluctuations in temperature, high evaporation rates, periodic high winds, wet and dry seasons, and intense local storms, common to all three.

The Humid Zone: The average annual temperature of the humid zone ranges from 43 to 50 degrees Fahrenheit. Winters are continuously cold during the months of December, January, and February, with average minimum temperatures varying from 4 to 15 degrees. Minimum temperatures may reach 25 degrees below zero. The average maximum temperatures during June, July and August, the hottest months, are between 70 and 80 degrees, with the highest temperature on record at 99 degrees.

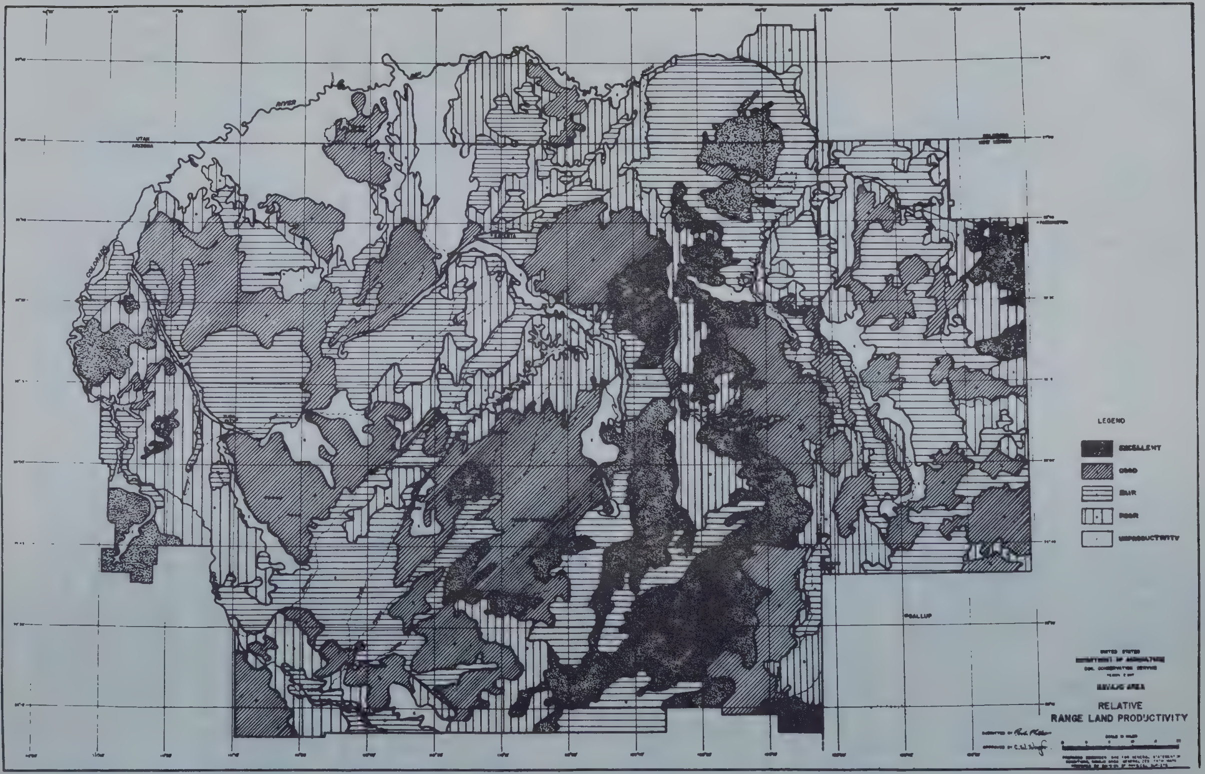
Total annual rainfall averages between 16 and 27 inches, the high averages being reached only at the highest elevations. There are two distinct periods of precipitation, the winter period (December, January, February and March), when 42 per cent of the total annual precipitation generally falls, and the summer period (July, August, and September), when 32 per cent generally falls. Between these two periods there are the early summer dry period of April, May and June and the fall dry period of October and November.

Snow accounts for 41 percent of the total precipitation, with December, January, February and March as the months of heaviest snowfall. The total annual fall usually exceeds 90 inches, with deposits often reaching 4 or 5 feet in depth on the level and 10 feet when drifted. Run-off from melting snows takes place principally during April nd May, at which time the seasonal mountain streams flow at maximum sustained rates.

The Steppe Zone: About one fifth of the Navajo area falls within the steppe one. This zone is intermediate between the humid above and the desert below, with moderate summers and frequently severe winters. The average annual temperature anges from 45 to 50 degrees with an average minimum monthly temperature during he winter of 10 to 25 degrees, and an average maximum during the summer of 80 o 88 degrees .The coldest temperatures, as low as 25 to 30 degrees below zero, ccur during December, January, and February; the highest temperatures, which may xceed one hundred degrees, occur during June, July and August.

Annual rainfall normally averages 12 to 16 inches. There is one outstanding season of precipitation which occurs in July, August and September when 43 per cent of he total annual precipitation falls. There are two more or less definite periods of rought, in May and June and in October and November.

Within the steppe zone one-fourth of the precipitation falls as snow, the fall sually averaging about 30 inches per season. Deposition often reaches 2 or 3 feet, nd high winds may drift snow to depths of 8 or 10 feet. December, January, February nd March are the months of heaviest snowfall. Usually by late March most of the ow has melted and resulting run-off has subsided; streams originating within this one are dry washes most of the year and flow steadily only two or three weeks in arly spring.


LEGEND
EXCELLENT
GOOD
FAIR
POOR
UNPRODUCTIVITY
UTAH
ARIZONA
RIVER
COLORADO
GALLUP

UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
NAVAJO AREA

RELATIVE
RANGE LAND PRODUCTIVITY

MAP 6

The Desert Zone: About three-fourths of the Navajo area is classed as desert. The average annual temperature is 50 to 60 degrees with a relatively long warm season extending through April, May, June, July, August, September and even into October and November. In mid-summer maximum temperatures may reach 110 degrees or more, and average maximum monthly temperatures in some localities may reach 100 degrees. December, January, and February are the coldest months with minimum temperatures averaging 11 to 30 degrees above zero, but temperatures as low as 20 and 30 degrees below zero have been recorded.

Total annual rainfall normally averages between 7 and 11 inches, but wide variations are the rule with figures registered as low as 1.5 inches and as high as 16 inches. The wettest season occurs during July, August, and September, when 41 per cent of he total annual precipitation falls. Snowfall accounts for a comparatively small portion of the moisture supply, and low reaches of this zone often do not have more than a few flurries. The snow that does fall usually comes during December, January, and February, the period from March to November being almost completely free from now.

The average annual total of days which have measurable precipitation is less than 50, most of which occur during July and August.

Records for the desert zone show an average growing season of 173 days ex-ending between approximate dates of April 25 and October 15; the growing season within the steppe belt averages approximately 147 days, extending from about May 4 to October 9; and the growing season within the area of humid climate averages 5 days, extending from about June 12 to September 15.

The humid zone is often snow-bound from December to April each year, and he Indian inhabitants migrate to lower elevations.

Within the desert and steppe climates, most of the rainfall occurs as summer ownpours of high intensity and short duration. Like the southwest generally, the Navajo area is a sunny country, the percentage of clear days averaging about 80 er cent of the total. High winds and sandstorms occur during the late spring and early summer months.

The high rate of evaporation is one of the most important causes for the loss of ater in the Navajo country, particularly from the surfaces of reservoirs and lakes posed to wind movement and bright sunshine. The removal of 5 to 7 feet annually om even a comparatively small reservoir means the loss of several acre feet of ecious water. High winds of 38 to 46 miles per hour have been recorded. Dust evils or large whirlwinds caused by convection air currents resulting from the heating nd movement upward of masses of air near the ground surface, are common in avajoland during the summer months.

SOILS: Soils of the Navajo-Hopi area are used almost universally for the pro-ction of livestock forage. They have been evaluated by determination of certain iportant ecological characteristics, such as soil permeability and water-holding pacity, zone of water retention, slope, erosion, alkali, drainage, and type of vege-tion, and classified into five divisions as **excellent, good, fair, poor** and **unproductive.**

Excellent Soils: Soils of this type absorb most of the average precipitation anc do not produce any considerable run-off, except during maximum storms. Highl palatable grasses, principally blue grama and galleta usually are produced in pure stands or with scattered associated shrubs. Generally, erosion is not serious and wil not become so unless the land is subjected to extended periods of overgrazing. Excellent soils cover an estimated 1,663,800 acres, or only 11 per cent of the Navajc area. They are most extensive in the south central part, but smaller, isolated areas are found in the extreme northeast on the plains north of Carrizo Mountain, on Seconc Mesa, in the Padre Canyon country, on Grey Mountain, and in the area west o Cedar Ridge.

Good Soils: Soils of this type are slightly more susceptible to erosion, and the rate of moisture penetration is equivalent to that of excellent soil or is sometime more rapid because of the extremely sandy surface layers. Good soils are founc generally over the reservation, in an area totaling about 3,500,000 acres, or 22 pe cent of the Navajo-Hopi area.

Fair Soils: Soils of this type are the most extensive in the Navajo-Hopi area, anc total almost 4,400,000 acres, or 29 per cent.

Poor Soils: Soils of this type occupy almost 3,400,000 acres, or 23 per cent, o the entire Navajo-Hopi reservation area.

Unproductive Soils: Soils of this type occupy about 2,205,000 acres, or 15 pe cent of the reservation area, including principally the rough broken strip of country bordering the San Juan and Colorado Rivers in the northern and northwestern part, and extending southward west of Echo Cliff and along the Little Colorado Valley, the northern and eastern escarpments of Black Mesa, some of the eastern escarpments of the Lukachukai Mountains, the painted desert formations, and the badlands. Land of this class has essentially no grazing value. A large percentage of the precipation escapes as run-off and carries away large quantities of silt. Vegetative cove is sparse or absent.

VEGETATION: Ten general types of vegetation occur over the Navajo-Hop reservation area: grassland, meadow, weeds, sagebrush, browse (shrub), timber, inaccessible and barren, woodland, and aspen. These types, which actually merge ir various combinations, are determined by climate, relief, soil, and other environmenta factors, and the vigor and productivity of the component plants are functions o environment.

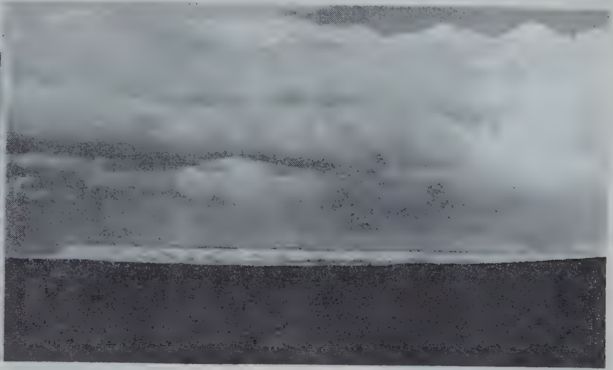
Grassland occurs typically on residual and outwash soils of rolling plains anc mesas at the middle elevations. This type includes bunchgrass areas, grama areas, anc other open grassland, not meadow in character, where grasses predominate. Weed or browse, or both frequently occur in mixtures with the grasses.

The barren waste lands

The alluvial valleys

PHYSIOGRAPHIC TYPES

The rolling plains



The high mesa lands

The woodland area of Juniper and Pinon

Ponderosa pine in the high humid areas

VEGETATIVE TYPES

Sagebrush dominates lower elevations of sandy, arid soils

The high grassland meadows

On the reservation, meadows are found only within the most humid climate on he higher reaches of the Chuska Mountains, occurring as open parks associated with ellow pine, spruce-fir, and aspen. Growth form, densities, and forage production re similar to grasslands.

Weeds or weedlands include all untimbered areas where perennial weeds pre-lominate over other classes of vegetation. A very common weed in the reservation rea, which often makes its appearance following overgrazing, is the Russian thistle.

Sagebrush is one of the more common shrubs in the Navajo area, covering some 80,000 acres or 5.2 per cent of the area. It will supply forage for a total of about 5,000 sheep units yearlong.

Chamise and greasewood occur on undeveloped alluvial soils along most of the rge drainages and their tributaries within the desert and steppe climates.

Coniferous timber is adapted to the more humid portions of the area at ele-ations generally above 7,500 feet, except where local topography, exposure, evapora-on, and sub-irrigation result in favorable micro-climates. Heavy coniferous stands ften do not include an understory of forage plants and, therefore, are of little use r grazing although such stands furnish excellent soil and watershed protection. oniferous timber occupies about 6 per cent of the Navajo area (540,000 acres) and pplies forage for about 22,000 sheep units yearlong. Commercial timber constitutes highly valuable resource.

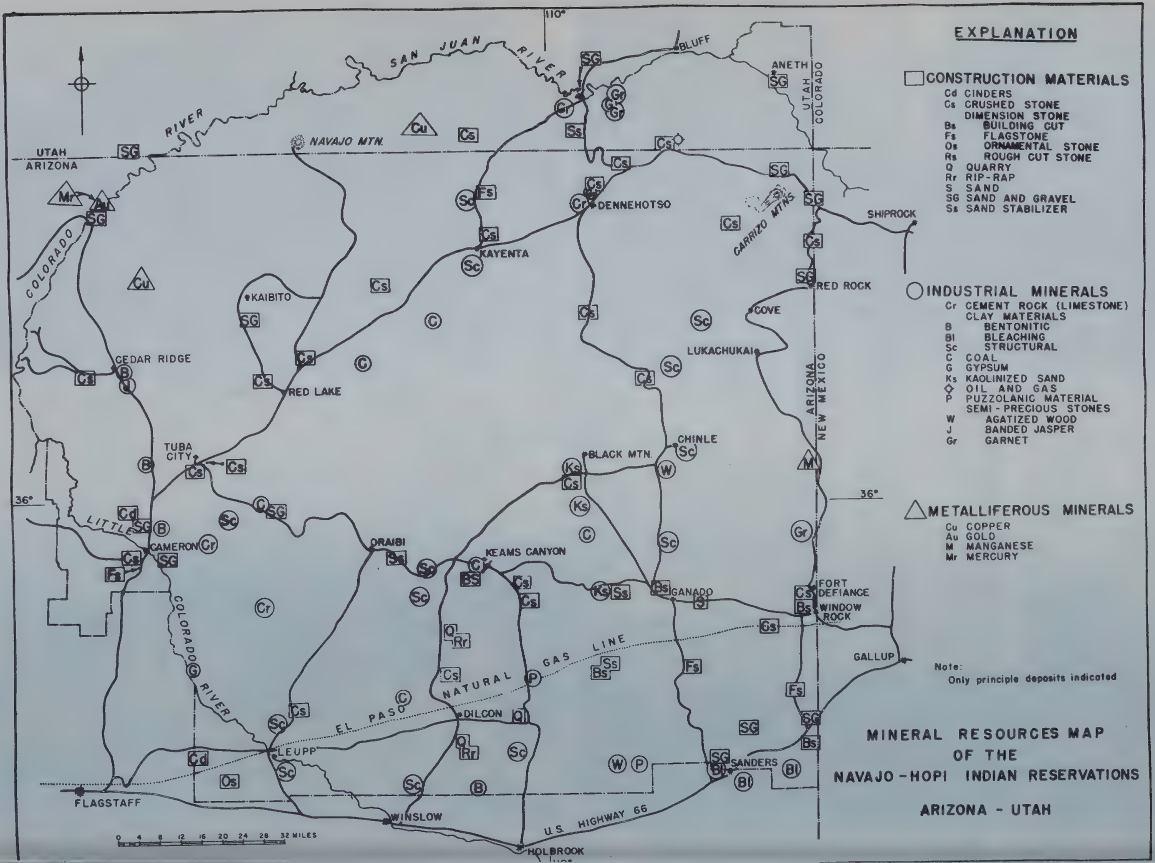
Over 1,000,000 acres (7%) of the Navajo area is wasteland, principally because f its inaccessibility. In addition, about 665,000 acres are designated as barren, and re typified by the painted desert area, bare rock regions and other badlands.

AGRICULTURE: Farming opportunities in the Navajo area depend principally pon soil slope and on water availability. The most extensive dry farm agricultural ea lies within the humid belt, where agricultural soils typical of this zone are highly roductive. Crops which can be profitably produced under careful management in-ude oats and other small grains, alfalfa and sweet clover, corn, potatoes, turnips, rrots, cabbage and other cool season vegetables, and grasses for pasture and hay.

The next most favorable dry farm agricultural area falls within the steppe climatic ne, particularly the part immediately below the humid one where rainfall averages etween 12 and 16 inches. The soils in this area are of medium productivity, but ecause of greater acreage the total yield from dry farm and flood irrigated crops own probably exceeds all other portions of the reservation combined. Adaptable ops include winter and spring small grains, corn, melons, squashes, beans, potatoes, rnips, and other vegetables. There is more opportunity for diversification within is one than in the other two except on irrigated land.

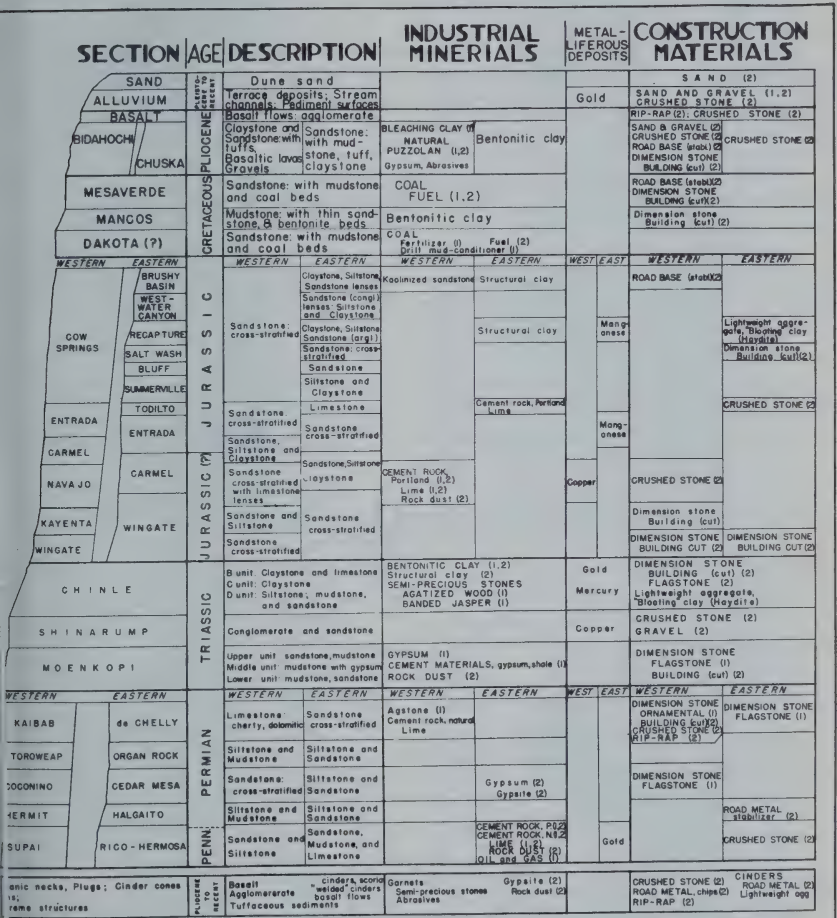
Principally because of lack of sufficient moisture, the remainder of the reserva-n is generally unfavorable for the growth of farm agricultural crops.

There are about 44,500 acres of agricultural land now under cultivation on the vajo reservation, and present estimates indicate that there are perhaps 175,000 res possible with expansion of agricultural land.



MINERAL RESOURCES MAP
OF THE
NAVAJO-HOPI INDIAN RESERVATIONS
ARIZONA - UTAH

EXPLANATION
CONSTRUCTION MATERIALS
Cd CINDERS
Cs CRUSHED STONE
DIMENSION STONE
Bs BUILDING CUT
Fs FLAGSTONE
Os ORNAMENTAL STONE
Rs ROUGH CUT STONE
Q QUARRY
Rr RIP-RAP
S SAND
SG SAND AND GRAVEL
Ss SAND STABILIZER
INDUSTRIAL MINERALS
Cr CEMENT ROCK (LIMESTONE)
CLAY MATERIALS
B BENTONITIC
Bl BLEACHING
Sc STRUCTURAL
C COAL
G GYPSUM
Ks KAOLINIZED SAND
◇ OIL AND GAS
P PUZZOLANIC MATERIAL
SEMI-PRECIOUS STONES
W AGATIZED WOOD
J BANDED JASPER
Gr GARNET
METALLIFEROUS MINERALS
Cu COPPER
Au GOLD
M MANGANESE
Mr MERCURY
Note:
Only principle deposits indicated
110°
36°
UTAH
ARIZONA
COLORADO
NEW MEXICO
SAN JUAN RIVER
COLORADO RIVER
LITTLE COLORADO RIVER
NAVAJO MTN.
CARRIZO MTNS.
BLUFF
ANETH
SHIPROCK
DENNEHOTSO
KAYENTA
KAIBITO
RED LAKE
CEDAR RIDGE
TUBA CITY
CAMERON
RED ROCK
COVE
LUKACHUKAI
CHINLE
BLACK MTN.
ORAIBI
KEAMS CANYON
GANADO
FORT DEFIANCE
WINDOW ROCK
GALLUP
DILCON
LEUPP
FLAGSTAFF
WINSLOW
HOLBROOK
SANDERS
EL PASO NATURAL GAS LINE
U.S. HIGHWAY 66
0 4 8 12 16 20 24 28 32 MILES



SECTION	AGE	DESCRIPTION	INDUSTRIAL MINERALS	METAL-LIFEROUS DEPOSITS	CONSTRUCTION MATERIALS
SAND	PLEISTOCENE TO RECENT	Dune sand			SAND (2)
ALLUVIUM		Terrace deposits; Stream channels; Pediment surfaces		Gold	SAND AND GRAVEL (1,2) CRUSHED STONE (2)
BASALT	PLIOCENE	Basalt flows: agglomerate			RIP-RAP (2); CRUSHED STONE (2)
BIDAHOCHI		Claystone and Sandstone: with tuffs, Basaltic lavas Gravels	BLEACHING CLAY (1) NATURAL PUZZOLAN (1,2) Gypsum, Abrasives		SAND & GRAVEL (2) CRUSHED STONE (2) ROAD BASE (stabl.) (2) DIMENSION STONE BUILDING (cut) (2)
CHUSKA		Sandstone: with mudstone, tuff, claystone	Bentonitic clay		CRUSHED STONE (2)
MESAVERDE	CRETACEOUS	Sandstone: with mudstone and coal beds	COAL FUEL (1,2)		ROAD BASE (stabl)(2) DIMENSION STONE BUILDING (cut)(2)
MANCOS		Mudstone: with thin sandstone, & bentonite beds	Bentonitic clay		Dimension stone Building (cut) (2)
DAKOTA (?)		Sandstone: with mudstone and coal beds	COAL Fertilizer (1) Fuel (2) Drill mud-conditioner (1)		
WESTERN		WESTERN	WESTERN	WEST	WESTERN
COW SPRINGS	JURASSIC	Sandstone: cross-stratified	Kaolinized sandstone		ROAD BASE (stabl)(2)
ENTRADA		Sandstone. cross-stratified			
CARMEL		Sandstone, Siltstone and Claystone			
NAVAJO	JURASSIC (?)	Sandstone cross-stratified with limestone lenses	CEMENT ROCK, Portland (1,2) Lime (1,2) Rock dust (2)	Copper	CRUSHED STONE (2)
KAYENTA		Sandstone and Siltstone			Dimension stone Building (cut)
WINGATE		Sandstone cross-stratified			DIMENSION STONE BUILDING CUT (2)
EASTERN		EASTERN	EASTERN	EAST	EASTERN
BRUSHY BASIN	JURASSIC	Claystone, Siltstone, Sandstone lenses	Structural clay		
WEST-WATER CANYON		Sandstone (congl) lenses: Siltstone and Claystone			
RECAPTURE		Claystone, Siltstone Sandstone (argl)	Structural clay	Manganese	Lightweight aggregate, "Bloating" clay (Haydite)
SALT WASH		Sandstone: cross-stratified			Dimension stone Building (cut)(2)
BLUFF		Sandstone			
SUMMERVILLE		Siltstone and Claystone			
TODILTO		Limestone	Cement rock, Portland Lime		CRUSHED STONE (2)
ENTRADA		Sandstone cross-stratified		Manganese	
CARMEL	JURASSIC (?)	Sandstone, Siltstone Claystone			
WINGATE		Sandstone cross-stratified			DIMENSION STONE BUILDING CUT (2)
CHINLE	TRIASSIC	B unit. Claystone and limestone C unit: Claystone D unit: Siltstone; mudstone, and sandstone	BENTONITIC CLAY (1,2) Structural clay (2) SEMI-PRECIOUS STONES AGATIZED WOOD (1) BANDED JASPER (1)	Gold Mercury	DIMENSION STONE BUILDING (cut) (2) FLAGSTONE (2) Lightweight aggregate, "Bloating" clay (Haydite)
SHINARUMP		Conglomerate and sandstone		Copper	CRUSHED STONE (2) GRAVEL (2)
MOENKOPI		Upper unit sandstone, mudstone Middle unit mudstone with gypsum Lower unit mudstone, sandstone	GYPSUM (1) CEMENT MATERIALS, gypsum, shale (1) ROCK DUST (2)		DIMENSION STONE FLAGSTONE (1) BUILDING (cut) (2)
WESTERN		WESTERN	WESTERN	WEST	WESTERN
KAIBAB	PERMIAN	Limestone cherty, dolomitic	Agstone (1) Cement rock, natural Lime		DIMENSION STONE ORNAMENTAL (1) BUILDING (cut)(2) CRUSHED STONE (2) RIP-RAP (2)
TOROWEAP		Siltstone and Mudstone			
COCONINO		Sandstone: cross-stratified			DIMENSION STONE FLAGSTONE (1)
HERMIT		Siltstone and Mudstone			
SUPAI	PENN.	Sandstone and Siltstone			
EASTERN		EASTERN	EASTERN	EAST	EASTERN
de CHELLY	PERMIAN	Sandstone cross-stratified			DIMENSION STONE FLAGSTONE (1)
ORGAN ROCK		Siltstone and Sandstone			
CEDAR MESA		Siltstone and Sandstone	Gypsum (2) Gypsite (2)		
HALGAITO		Siltstone and Sandstone			ROAD METAL stabilizer (2)
RICO-HERMOSA	PENN.	Sandstone, Mudstone, and Limestone	CEMENT ROCK, P.(1,2) CEMENT ROCK, N.(1,2) LIME (1,2) ROCK DUST (2) OIL and GAS (1)	Gold	CRUSHED STONE (2)
anic necks, Plugs; Cinder cones ns; reme structures	PLIOCENE TO RECENT	Basalt Agglomererate Tuffaceous sediments cinders, scoria "welded" cinders basalt flows	Garnets Semi-precious stones Abrasives Gypsite (2) Rock dust (2)		CRUSHED STONE (2) ROAD METAL, chips (2) RIP-RAP (2) CINDERS ROAD METAL (2) Lightweight agg

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Time-Rock chart

MINERAL RESOURCES OF THE NAVAJO-HOPI INDIAN RESERVATIONS ARIZONA-UTAH

EXCLUSIVE OF URANIUM AND GROUND WATER

NOT TO SCALE

Explanation of Resources:

CAPITAL letters denote good potential for present development

Lower case letters denote good potential for future development

(1) Marketing OFF reservation

(2) Marketing ON reservation

26 OCT 53

Compiled by Geo A Kiersch

RE 2

MINERALS: The metallic minerals include gold, silver, copper, and uranium vanadium.

Copper is known to exist at several locations on the Navajo reservation, an small amounts occur in the Carrizo Mountains.

Carmotite, a uranium-vanadium mineral, occurs throughout southwestern Colc rado, southeastern Utah, and at certain localities in northeastern Arizona. On th reservation it occurs in various locations, principally in the Monument Valley and i the Carrizo Mountains.

Minerals known to exist on the reservation include bentonite, asphalt rock, builc ing stone, clays, gypsum, lime and alum, as well as peridot, garnet and agatized wooc

The distribution of coal in the Navajo country is practically co-existensive wi that of the strata of Upper Cretaceous age. In general, it may be said that tw fields are distinguishable, the Black Mesa coal field of Arizona, and the Gallu Durango field of New Mexico and Colorado.

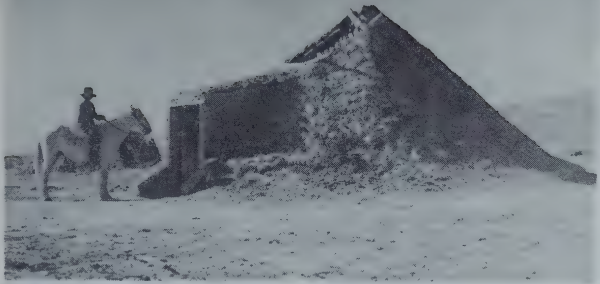
Oil and gas were developed in the northern part of the Navajo area as ear as 1907, at which time a well was drilled in the Monument Valley area across th river from Mexican Hat, Utah. Subsequently, a number of wells have been develope

One of the most important oil fields as far as Navajo economy is concerne is the Rattle Snake oil field in the Shiprock area. On October 15, 1923, an explor tory lease amounting to 4,080 acres was offered for sale at Santa Fe, New Mexic After having been passed without bid in the forenoon, the lease was offered aga in the afternoon and purchased for $1,000. The Santa Fe Company was organize for the development of the property, and in the fall of 1924 the Continental C Company acquired an interest in the property and has since been in charge of i operation. The oil field is still in operation and has been one of the principal sourc of Navajo Tribal income for many years.

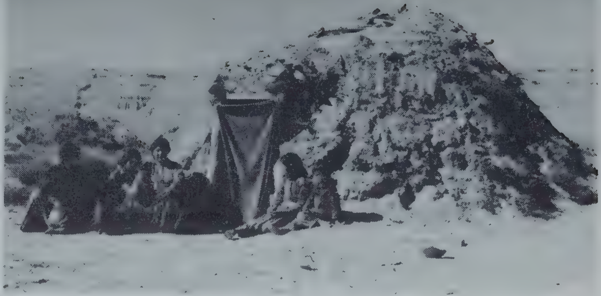
THE NAVAJO PEOPLE

In an effort to provide a small amount of general information relative to trac tional Navajo life and culture, we include herewith a few brief comments in rega to housing, social and political organization, dress, religion, etc. The generalizatio are too brief and too vague to have any signification aside from providing a minim quantity of background information to the reader who has had no previous exp rience with the Navajo Tribe and, we hope, providing a stimulus to seek more c tailed information through some of the published material listed in the bibliograph

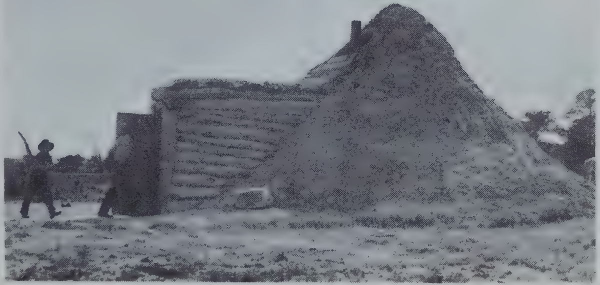
NAVAJO HOUSING TYPES



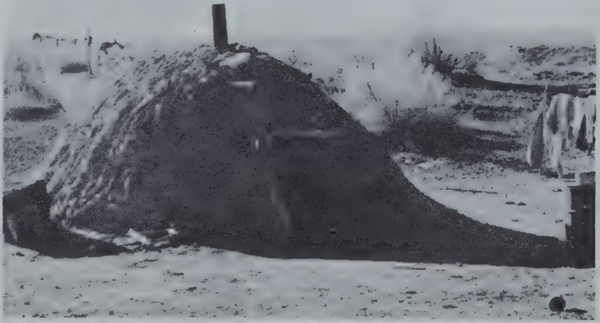
The traditional forked stick hogan with open fireplace and smoke hole.



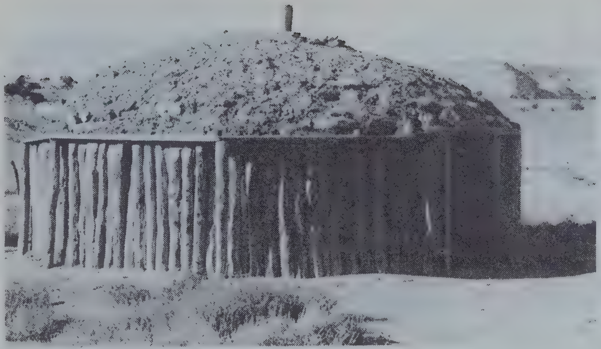
A primitive dwelling of mud and poles with open fireplace and smoke hole.



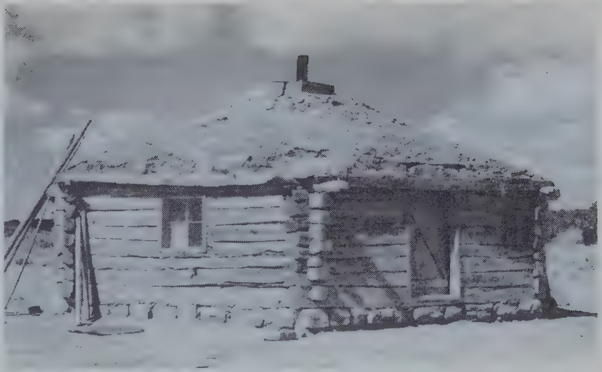
The old-type hogan replaces the open smoke hole with a chimney.



The open fireplace gives way to a stove.

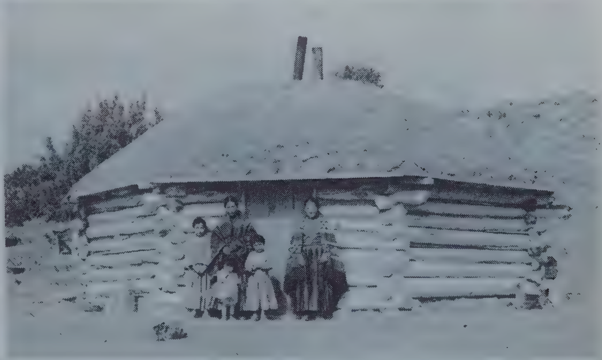


A hogan of upright chinked logs with roof of dirt and logs, complete with stove and chimney.



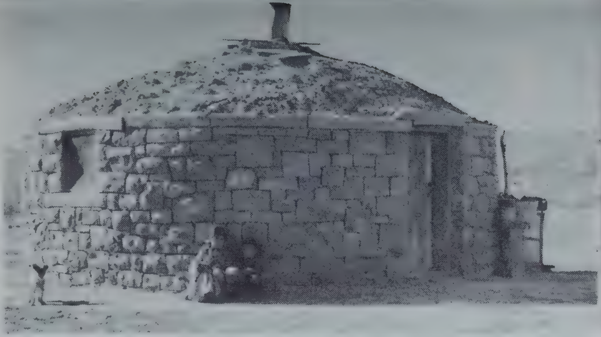
A hogan of cribbed logs, complete with stove, chimney and windows.

NAVAJO HOUSING TYPES

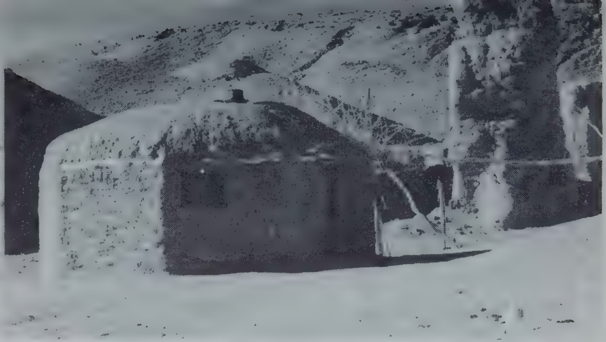


A hogan of chinked cribbed logs and dirt roof.

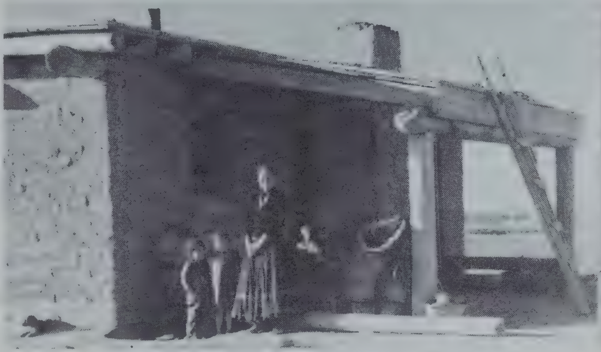
NAVAJO HOUSING TYPES



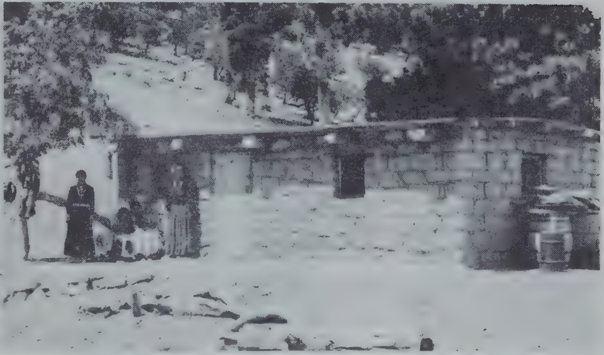
A stone hogan of skillfully joined masonry with windows and stove.



A stone hogan made of small flat rocks, polygonal in shape, and complete with windows and stove.



A stone house chinked with mud, complete with windows and "front porch" with roof supported by vigas.



Another type of stone house.

HOUSING: The traditional Navajo abode is called a hogan. The hogan is mo commonly a circular (hemispherical or conical) structure, with a doorway facing ea and a smoke hole in the center of the roof, but lacking windows. The wall is usual of logs, mud or rocks, depending on the availability of one or the other buildi material, and the hemispherical roof is formed of cribbed logs covered with dir The fire is placed on the hard packed dirt floor beneath the smoke hole, and a fla or hinged door covers the doorway. The occupants sleep on sheepskins, lying wi their feet to the fire and their heads to the wall. Nowadays many hogans ha windows, stoves, chimneys, beds, etc., and, in fact an ever increasing number Navajos live in houses made of logs, stone, lumber, building blocks, etc.

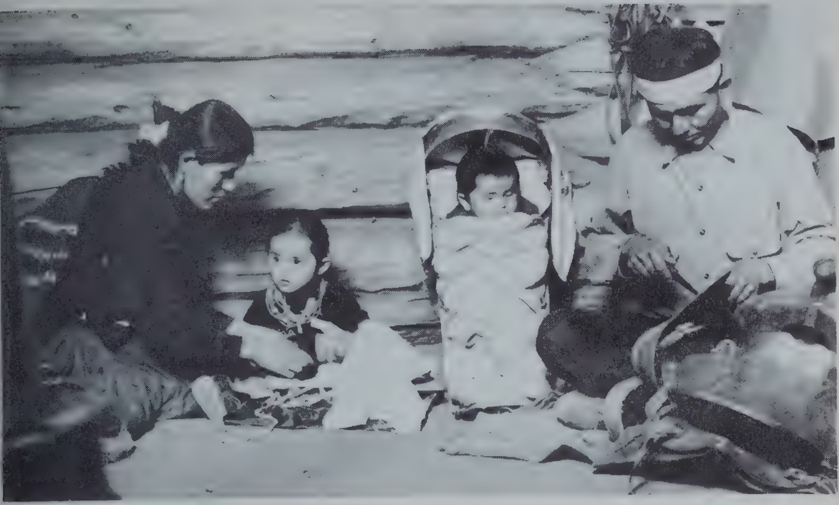
A small structure, conical in shape, made of upright poles and covered wi earth, is used as a sudatory or sweat bath, largely by males. It is heated by placi hot stones within, and provides bath facilities in this area of scarce water.

SOCIAL ORGANIZATION: The term "family" is considerably broader in i application to Navajo society than the biological unit including merely the fathe mother and offspring, although the biological family is the basic unit of social o ganization. Traditionally, when a Navajo man marries he goes to make his home wi his wife's relatives, and his biological family becomes one of several such units whi live in a group of adjacent hogans, and which are referred to as an extended famil The extended family may include husbands and offspring of the wife's sisters, t parents of one's wife, grandparents, aunts, uncles or other relatives of either spous and there may be as many as 20-25 persons included within the group. The me bers help one another and collaborate in providing a livelihood, and cooperate connection with birth, death, marriage, sickness, minor ceremonials, etc. Direction usually given to the cooperative activities of the group by the male member w has the greatest prestige or highest status—the one to whom the group norma looks for leadership.

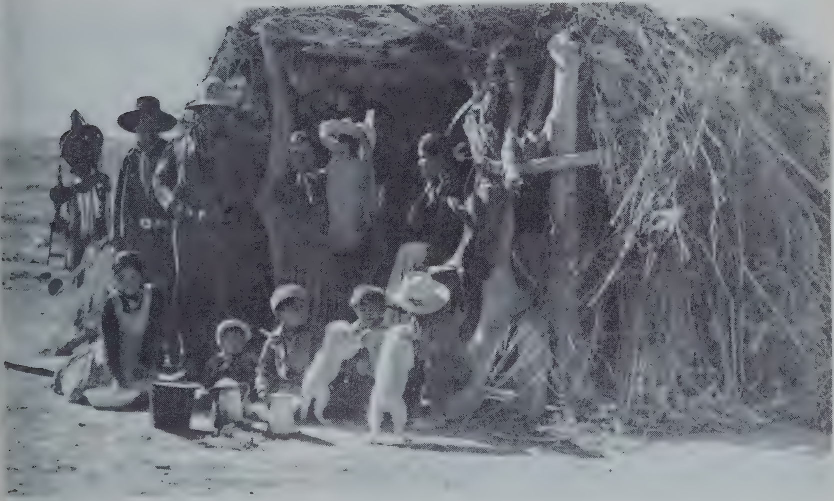
Within the biological family the woman is in full charge of caring for the o spring, cooking, butchering, caring for the food, and is responsible for dischargi all other domestic duties connected with the home. The man hauls wood and wat builds the hogan and corral, provides food, does the heavier work of farming, et although the women and children commonly assist in the fields, especially at planti and harvesting times, and help with shearing, lambing, etc. Herding of the she usually falls to the children.

The children play a very active role in the economic activities of the family, a are given minor tasks to perform at a very early age. As they grow up they a trained in the care of livestock, in farming and in other aspects of gaining a live hood, as well as in ethics and tradition, and as they grow they begin to acqui property. The process of transferring livestock and farm land to the children co tinues until, by the time the parents are advanced in years most such property in the hands of their offspring, especially their daughters and the latter's husban Thus a woman's property normally descends, not to her husband, but to her childre The husband is the guardian of such property, but not the possessor of it.

Sheep or farmland are generally the property of individual members of t family, and may be given away, sold or transferred by the owner under certa conditions, but the proceeds from such property are usually used by the entire grou



A Navajo family at home.



A Navajo family in a summer brush shelter.

For centuries Navajo children have watched the sheep as their contribution to the family livelihood

Home life is pleasant and congenial, with pleasures and duties shared by a large extended family group.

The extended family group, made up of two or more biological families, is a ery important aspect of Navajo social organization. It is a cooperating unit, closely ound together by ties of marriage and close relationship, possessing responsible eadership, and identified with specific areas of land use for grazing or other agriultural purposes.

Nowadays the husband often leaves his family for seasonal work on the raiload or in the mines, or a portion of the family group, including men, women and hildren, may spend several months of the year in the cotton fields and truck gardens f southern Arizona, or the sugarbeet fields of Utah and Idaho, while other members f the group care for the livestock and the farm at home on the Reservation.

The extended family group, in its turn, is an aspect of a larger, although more oosely associated, sociological unit, commonly referred to as a community. There re no communities in the sense of being villages in the Navajo country except as uch have grown up around Government schools, hospitals and administrative ceners or around missions. Towns or villages are not aspects of Navajo culture itself. However, under the leadership of one or more of the ablest family heads, families nd family groups cooperate as members of a community group, tied by bonds of marriage, relationship, adjacent residence, common interest and the like. The community groups can be closely identified with specific areas of land use and residence, nd each has its own social structure. They are not formalized nor closely knit units, ut they are basic to traditional land use and economy on the Reservation.

Although it still retains an important function in terms of limiting the marriage hoice, the Navajo clan has lost many of its historical functions. A person acquires lan membership by the fact of birth into his mother's clan, and cannot marry a member of that clan, a member of a closely related clan, or a member of his or er father's clan, since clan "brothers" and "sisters" are considered in the same manner as blood relatives insofar as marriage is concerned.

Briefly, the foregoing purports to be a sketch of Navajo social organization, and o a great degree, **as a generalization,** it is still true with regional variations, of a majority of the Navajo people. However, the Navajo are undergoing rapid cultural hange. Diversification of the Navajo economy, formal schooling, pressures for cculturation and a multitude of allied forces are working toward the individualization f the group. In his traditional society the individual functioned as a member of a roup; in the western European society into which he is being integrated he is under ressure to function as an individual. He pays rent on his house, lives by wages intead of the land or by a combination of the two, must live at the location of his age work all or part of the time, etc. Thus, a generalized description of Navajo ocial organization must, perforce, fit only a segment of the group and be a highly elative matter:

DRESS: Generally speaking, Navajo men dress in what is commonly known as western" garb including levis, western shirts, cowboy boots, etc. Some still make nd wear excellent moccasins. The women characteristically wear long fluted calico irts and contrasting velveteen blouses, often with a Pendleton blanket draped over he shoulders. Both men and women commonly wear varying quantities of silver, turquoise, coral and abalone shell jewelry, including earrings, bracelets, rings, nec laces and ornate buttons and belts, especially in public. Some men still wear the hair long, tied in a knot behind their head with white woolen yarn in a style simil to that used by most of the women.

However, a majority of the men nowadays cut their hair, and an increasin number of the younger women cut and curl their hair after the fashion of the whit women, and wear conventional dresses or combinations of commercial blouses wi the traditional skirt.

POLITICAL ORGANIZATION: About a century ago when the territory o cupied by the Navajos became a part of the United States there was no such thin as a Navajo Tribe in a political sense. There were local leaders or headmen as w mentioned in connection with the extended family and community groups, with var ing amounts of local persuasive power, but no hereditary chiefs with coercive power and no representative governing body with either persuasive or coercive powers ov the whole tribe. According to legend there was formerly a tribal political organiz tion called the **naachid,** presided over by twenty four chiefs elected to office for lif Of these, twelve were Peace Chiefs and twelve were War Chiefs. It is said that th **naachid** gathered periodically for ceremonials and council, and the Peace Chiefs the War Chiefs would dominate the meetings, depending upon circumstances. Ho ever, if there was ever indeed such a Tribal organization it was not apparently potent force in Navajo political life at the time the United States Government e tered the picture in 1846.

Treaties were made between the military and the Tribe through the headme and administrative personnel attempted to control the Tribe, implement progra and institute policies through the same medium. In fact there was a time when, designated headmen failed to achieve desired results, they were replaced by pupp "headmen" armed with badges and documentary proof of authority—needless to sa such "leaders" were powerless.

Prior to 1934 the Navajo Reservation was administered through 5 separa agencies (6, including the Hopi-Navajo Agency at Keams Canyon), a fact whi did not make for the development of tribal unity. Without a political mechanis for self help, the people as well as their leaders were dependent upon a quas paternalistic Superintendent in whose lap they were accustomed to place their pro lems. In an effort to encourage local communities to seek solutions to their ow problems, and as a step toward improved communications between the Nava people and the Bureau of Indian Affairs, Mr. John Hunter began, in 1927, th development of local community organizations known as Chapters. The first Chapte were established in the Leupp Agency area where Mr. Hunter was then Superi tendent, and with his transfer to the Fort Defiance Agency a year later he co tinued the movement there. Subsequently, Suprintendent Samuel Stacher of th Crownpoint Agency and other Navajo Superintendents took up and spread th Chapter movement. To make the organization even more effective, local Counci were developed within the several agencies, composed of delegates from each the local Chapters. The development of the Chapters was an early step in th lirection of democratic self-government, and the extent to which these institutions ound a place in Navajo life is reflected in the fact that they continue in many ommunities to the present day although they do not currently occupy an **official** osition in the Tribal government. However, they are recognized in the proposed ribal Constitution, and the Tribal Council is encouraging the development of Chap-er organizations in communities where there are none. In fact, many of the 80 or nore Chapters still active today utilize community meeting houses constructed with naterials contributed by the Government and labor donated by the local Indians, ind in the past 3 years several communities have built new Chapter houses with naterials wholly or partly provided by the Navajo Tribe, or have repaired existing hapter houses with Tribal assistance.

Before 1923, Navajo Superintendents periodically called Councils of Headmen o discuss matters of program and policy, and from 1910 on there was a growing eed for some type of representative Tribal organization empowered to act for nd on behalf of the Navajo Tribe, especially in connection with mineral and oil eases. For many years, the Navajo had been controlled largely by military force in eeping with the policy of the times, and to some extent there was perhaps a hope hat a new tool for administrative suasion, if not coercion, might be developed in he form of a Tribal Council, the members of which would be expected to produce ompliance on the part of the people.

Whatever the motivation may have been, aside from the need for a representa-ve group authorized to act on mining and oil leases and other matters affecting he entire Navajo Tribe, in 1923 Mr. E. D. Merritt, then Acting Commissioner of ndian Affairs, promulgated a set of regulations in accordance with which a Navajo ribal Council was to be organized. The regulations included a preamble to the ffect that "The Navajo Indian Reservation situated in the states of Arizona, New exico and Utah, being extensive in area and the number of Indians of said Navajo ibe having rights therein being numerous and widely distributed in their habitat, nd in order to promote better administration of the affairs of the Navajo Tribe of dians in conformity to law and particularly as to matters in which the Navajo Tribe large is concerned such as oil, gas, coal and other mineral deposits, tribal timber nd development of underground water supply for stock purposes, etc., the following gulations are hereby prescribed and promulgated . . ."

"There shall be created a continuing body to be known and recognized as the avajo Tribal Council with which administrative officers of the Government may rectly deal in all matters affecting the Tribe."

The regulations provided for the establishment of a Council composed of a hairman, Vice-Chairman and twelve delegates, the latter representing each of the e Navajo jurisdictions and the Hopi. Elected with each of the twelve delegates s an alternate to act in lieu of the regular delegates in the latter's absence. If any ea refused or neglected to elect a delegate and an alternate, the regulations ovided that the Secretary of the Interior might select one arbitrarily. Terms of fice for the Chairman and the Vice-Chairman were designated as four years, but term was specified for delegates or alternates. Provision was made for the calling Council meetings by the Commissioner of the Navajo Tribe at times and places be determined by him. The regulations did not provide for voting by women.

In 1928 the Council regulations were revised to specify four year terms o office for delegates and alternates, and to give both men and women the righ to vote.

Obviously, the early Councils were not democratic functional governing bodie in any sense of the word, nor was the main body of the Navajo people ready fo such a radical step at that time. It was a white man's invention.

On June 14, 1934, the Indian Reorganization Act was submitted to a referendum of the Navajo Tribe, and was rejected by a narrow margin in a vote of 7,99 to 7,608. Had the Reorganization Act been adopted, the Tribe would have proceeded to develop a constitutional form of self-government. Despite its rejection steps were taken to develop a basic constitution, patterned after the IRA form but without the same legal status, and an improved Tribal Council.

In 1936, a committee was appointed to draw up plans for a larger and mor representative Tribal Council. Father Berard Haile led an appointed group to com the Reservation in search of recognized leaders of great ability and prestige, wit the result that 250 names were collected. Each Land Management District wa apportioned delegates on the basis of one such representative to each 400 population approximately, and from the list of 250 names, 70 were arbitrarily selected t compose a constitutional assembly, the old Council was dissolved, and a provisiona Executive Committee was appointed by the Chairman of the Constitutional Assembl to carry on "routine" Tribal business until the constitution could be completed an a duly elected Council developed.

The constitution was not adopted, and the provisional Council then devote itself to the development of a mechanism for the election of Council Officers an delegates which, after much deliberation and many redrafts by the Bureau of India Affairs and the Department of the Interior, was finally promulgated in 1938 by th Secretary of the Interior under the name "Rules for the Navajo Tribal Council." Th first election was held on September 16, 1938.

The Rules for the Tribal Council provided for a governing body composed o 74 members and a Chairman and Vice-Chairman, to be elected every four year by popular vote. The 74 election communities from which the delegates were to b elected were specified, and delegates were apportioned to the several Land Management Districts on the basis of population—approximately one to each 400-55 population. For election purposes the Reservation was divided into four parts, eac termed an "Election Province," and in election years the electors in each suc Province met to select the Province candidates for the Tribal Council Chairmanshi Voting was accomplished by colored ballots, each candidate being identified by color. To be elected a candidate required a majority of the votes cast, and th runner-up became the Vice-Chairman. In view of the fact that no single candidat usually received a clear majority of the votes cast, it was usually necessary to hol a run-off election after the main election.

The Rules for the Tribal Council also provided for the establishment of a 18-member Executive Committee, to be composed of one Council Delegate fro each District, designated as the Chief Delegate. The Chief Delegates were to b chosen by all of the Delegates in each District, and in the event the District Del gates could not agree among themselves on the choice of a Chief Delegate, the Chairman of the Tribal Council would select one. However, the Executive Committee of the old Council had become identified with the development and approval of the livestock reduction program and the Grazing Regulations promulgated in 1937, and the existence of such a committee was viewed with such suspicion and distrust that, after its reorganization, the Council refused to establish an Executive Committee. To the detriment of many categories of routine Tribal business an Executive Committee was not reestablished until 1947, at which time it was restored n the form of the Advisory Committee.

The Tribal Council as reorganized in 1938 is still constituted along the general ines of the 1938 reorganization, although it has grown enormously in the past 17 years to become a much more genuine tribal government. The old 1938 "Rules" were revised in 1950 to provide a pictorial paper ballot, and for election of candidates on the basis of plurality vote. Also the candidates for Chairman are now chosen by convention delegates representing each of the election communities located in the four Provinces. This latter provision gives each election community an equal voice in the nomination of a Province candidate for the Chairmanship whereas, ormerly, when the electors had to be present personally at the nominating conven-ion in order to nominate or support a candidate, those communities situated closest o the Province headquarters were represented at the nominating convention by a disproportionately large number of electors, while more remote communities might go without representation. In addition, the 1950 amendments included a provision whereby the established candidates for the Chairmanship choose their own running mates for the Vice-Chairmanship, and the pair is voted as a unit, as well as a pro-ision for the election of the Judges in the Courts of Indian Offenses in lieu of their appointment.

In 1954 it was necessary to again amend the Election procedure to provide or transfer of all responsibility in the conduct of Tribal elections from the Bureau f Indian Affairs to the Tribe itself. Among other provisions, the 1954 amendment stablished a Tribal Board of Election Supervisors to carry out tribal elections on behalf of the Tribe.

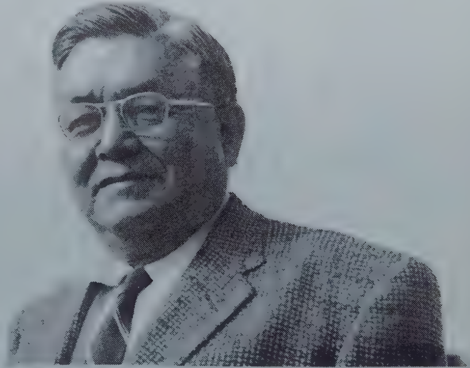
Following World War II, in 1946, a standing committee of 9 Council Delegates nd 9 alternates was established to be on hand and constantly prepared whenever he need for a Tribal delegation to Washington might arise in connection with the romotion of a long range rehabilitation program for the Tribe. In 1947-48 the ouncil began to delegate responsibilities to the Standing Committee and it developed into an Executive Committee under the name of the Advisory Committee. y Council resolution in 1951, a procedure was established for the reelection of the dvisory Committee from within the Council membership and by the Council as a rst act of business following each Tribal election. In the course of the past 7 years, th the enormous growth of Tribal responsibility in business and uranium mining, e Advisory Committee has received a great number of delegations of authority om the Tribal Council to act for and in behalf of the latter. The Advisory Com-ittee normally meets for at least a week each month, while the Tribal Council rmally meets on a quarterly basis.

The Navajo Tribal Council House at Window Rock, Arizona.

The 74-member Navajo Tribal Council usually convenes four times each year.

49
TRIBAL
ELECTION

Tribal Council delegates, the Council Chairman and Vice Chairman



Navajo Tribal Council Chairman Sam Ahkeah, who successfully led

In addition to the Advisory Committee, Council Committees on Health and elfare, Education, Law and Order, Administration, Budget, Trading, Loans, Engi- ering and Resources have been established, and a Business Management Com- ittee has been developed, the latter outside the Council.

Since the war, the Tribe has taken enormous strides toward the development a concept of Tribal unity, and toward actual cooperation on a **Tribal** instead of a cal basis, through its representative, elected Tribal governing body.

The Long Range Navajo-Hopi Rehabilitation Act which became law in 1950, thorized the Navajo Tribe to develop and adopt, by referendum, a Tribal con- tution. A draft of the constitution has been developed and will soon be ready for omission to the Navajo electorate. It defines and formalizes the powers of the ibe through its Council, and formalizes the structure and powers of the Tribal verning body. As the proposed constitution now stands, the Tribal Government uld continue along its present structural lines.

With the establishment of the Indian Claims Commission in 1946, the Navajo be secured the services of Mr. Norman M. Littell of Washington, D. C., as Claims torney, and as General Counsel for the Tribe. The Tribe has subsequently de- oped its own legal department including an Assistant General Counsel, a Legal lvisor, and others. This department is of value to the Tribe in providing necessary al guidance in the conduct of Tribal business, as well as in developing Navajo ims against the Federal Government.

All in all, the Tribe has successfuly taken over a great burden of responsibiity merly carried by the Federal Government, and in the course of the past decade been in the throes of a very rapid social and economic revolution.

LANGUAGE: The Navajo language is a member of the Athabascan family of guages, with relatives in interior Alaska, northern and west central Canada, along Pacific Coast and in the southwestern portion of the United States, as well as mall group (the Kiowa Apaches) on the Great Plains. In the Southwest (Arizona New Mexico) are their closest linguistic relatives, the several Apache groups.

Navajo is still the most common language in the Navajo country, in view of fact that a large proportion of the Navajo population is still unschooled and ble to make effective use of English. Despite the necessity for a continuous elopment of new vocabulary to express concepts that have come since the advent Europeans and, more recently, in dealing with highly technical subject matter, the ajos have borrowed a mere handful of Spanish and English loan words. The ajo language itself has met the need quite adequately, and has become a very medium of expression.

Council and Advisory Committee meetings are bilingual, with an interpreter ranslate from one language to the other.

RELIGION: Navajo religion is very complex, and is principally concerned wit life, not with preparation for death or an after life. To the traditional Navaj mind there are two types of personal forces in the world, the **nihookaa' dine'e,** earth people, living or dead, and the **diyin dine'e** or Holy People. The latter belon to the supermatural world and possess powers to harm or benefit the ordinary eart people. The earth people were created by the Holy People following the emergenc of the latter from the underworld, and were taught by them how to live and ho to protect themselves from evil and misfortune. Man, as an aspect of the tot universe, must do his part in maintaining orderliness, harmony and proper balanc for disorder and imbalance are manifested in illness and misfortune. Navajo religio in the form of its multiple ceremonials, is the medium through which man maintai harmony with the universe or restores it when it is momentarily lost. Violation Tribal taboo in coming in contact with a corpse, for example, may mean that th violator will be attacked by the evil spirit of the corpse. To prevent the evil spirit return after death, the corpse must be properly disposed of. Also the evil doing witches and wizards must be offset through prescribed ceremonials. If a person fal ill he will likely contact a diagnostician who by a process of hand-trembling, liste ing or gazing will discover the cause of illness and prescribe the proper ceremoni from a set of more than fifty which are carried on by specially trained medici men whom the Navajos call "singers." Many years of training and apprenticeshi are necessary to learn the complex prayers, songs and sand paintings associate with the various ceremonies.

The larger ceremonials are expensive and usually represent a great cooperati effort on the part of a person's family and relatives.

Thus, to the traditional Navajo mind his religion is a life way aimed principal at goals of good health, contentment and prosperity. In former times it was close associated with nearly every aspect of life from the major events of birth, marriag illness, and death to economic undertakings, war and trade. Today, in a changi Navajo society where the white man's medicine has entered the scene, where t social and economic life of the people is undergoing radical change, and where t white man's religion is being spread through many missions, the traditional religi is declining. To an extent, it no longer fits as well into the life-way of the peop as it did in former times—certain songs, prayers and rituals designed to assure pr perity and abundance from livestock are not transferable to truck driving, railro work and carpentry. To an increasing extent, medicine men are not sufficiently w trained in the ceremonies to carry them out properly and, with the increase in sch enrollment there will be less young men willing and able to devote the time nece sary to acquire the ceremonies in future years. The larger ceremonies, attended large gatherings, have always had a social and recreational aspect and to an creasing degree the latter aspect overshadows the religious. In short, like other e ments of traditional Navajo culture, the religion is in the process of change.

In the course of this social change, a new religious movement has gained c siderable ground on the Reservation during the past twenty years or so. An amalga of Christian concepts, Plains Indian and other ritual and influence, it is known the Native American Church, or more commonly as peyotism since it is characte ized by the use of the fruit of the peyote plant—the peyote "button"—more

A Navajo Medicine Man with his ceremonial paraphernalia.

A traditional Navajo wedding ceremony.

less in the form of a sacrament. In 1941 the Tribal Council prohibited the use, sa barter and introduction of peyote into the Navajo Reservation on the premise th it contains a harmful narcotic. However, the Tribal Resolution has not been enforce and the effects of the drugs contained in the peyote button are still a subject controversy.

HISTORICAL: Navajo legend and tradition, the "Genesis" of the peop trace their origin in the underworld, their Emergence somewhere north of the prese Reservation, the origin of the clans, their prehistoric wanderings and way of li Recorded history perhaps begins with a Spanish document dating from 1626, though the approximate date of Navajo entry into the Southwest remains a mo question. A great deal of new light will no doubt be shed on the subject of Nav prehistory as a result of the painstaking work in that connection being complet under the able direction of Richard Van Valkenburg, Consulting Archaeologist the Navajo Tribe, as a basis for Navajo claims.

On the basis of available knowledge, before the advent of Europeans Navajos lived by gathering seeds and berries, by hunting, by occasional rudiment agriculture and raiding. The family group was no doubt the basic economic unit this semi-nomadic way of life. Some time, probably in the 17th century, the ho and the sheep were introduced into Navajo life, with revolutionary results. The ho provided mobility and greatly expanded opportunities for hunting, food gather and raiding—the sheep provided a stable food supply, and changed Navajo soci from a hunting and gathering to a pastoral culture. Although never nomadic in sense of aimless continual wandering, the Navajo people have been characteri by mobility—a mobility required by the seasons and the availability of food forage which fluctuates with climatic conditions in the course of the year. Fam movements were confined to well defined areas of seasonal residence and, dur the planting and growing season they usually remained in the locality where th had their fields.

The acquisition of sheep not only changed the way of life of the Tribe fron hunting and gathering economy—a hand to mouth existence in which there little or no opportunity or incentive to accumulate wealth—but introduced the portunity to accumulate property, a fact which encouraged trade and brought Tribe a long step toward the money economy that has rapidly become a reality the people in their transition from a pastoral-barter economy to a wage econor

It was the mobility of the Navajo that brought them into conflict with Spanish, Mexican, and United States governments in the efforts of the latter maintain order. The Navajos raided the settlements and dispersed in the face punitive expeditions sent against them, expanding westward to separate themsel from the growing pressure of the European colonial population, and to find additional range required by their increased flocks.

The Spanish-Mexican period was characterized by an almost constant inter cine warfare between the Navajos and the European settlers, characterized by ra in which both sides took slaves and livestock.

In 1864 the United States government forced the majority of the Navajo Tr into submission by a systematic destruction of crops and livestock, and took captives to Fort Sumner, New Mexico, where an attempt was made to convert them to a sedentary agricultural way of life. The effort failed miserably and in 1868 a treaty was drawn up between the United States government and the Navajo Tribe whereby they were returned to a less than 3½ million acre fraction of the land they previously occupied. Subsequent to their return a total of 35,000 sheep and goats were issued to them to give them a new start in the old pastoral life. The Reservation boundaries meant nothing to the Navajos, however, and they dispersed to reoccupy many of the areas they had used before the Fort Sumner exile. To some extent, those areas were subsequently annexed to the Reservation by a series of Executive Order Extensions and Acts of Congress during the period 1878-1934. By 1938, the Reservation included an area of approximately 15,000,000 acres, and the Navajo population had increased from an estimated maximum of 12,000 in 1868 to over 40,000. The density of population, both human and livestock, increased rapidly and the land base slowly, with the result that overgrazing upset the delicate balance nature had established in the semi-arid southwest and erosion resulted with the destruction of the resources upon which the human population was dependent for a livelihood.

To control overgrazing and halt destruction of the range, the government initiated a livestock reduction program in 1933, and a short time later developed a set of regulations for the control of grazing, livestock population and distribution. Statistical information provided on page **116** shows the course and effect of the stock reduction program over a period of years. The Navajo people, their security threatened, fought the reduction program bitterly. The majority were uneducated, and unprepared to make a livelihood without livestock; they had little previous experience in wage work and the management of money. Nevertheless, during the stock reduction period, large numbers of Navajos made a living from wages received in employment with the Public Works Administration, the Civilian Conservation Corps, the Soil Conservation Service, etc., on the Reservation.

With the coming of World War II, agriculture, industry and the railroads provided a new labor market to which great numbers of Navajos flocked, not to mention an estimated 3,600 who found their way into the armed forces. Not only did a large part of the population have, for the first time, an opportunity to visit and ve in areas remote from the Reservation and under conditions radically different rom those to which they were accustomed, but they were introduced to the wage economy, customs and requirements of the outside world.

With the close of the war, the wage work to which many Navajo families had become accustomed, and upon which they were dependent, came to an abrupt end. They were suddenly forced back to the meager reservation resources which, in many nstances, had become depleted through neglect during the war years. Some families ad only empty livestock permits; many had only a handful of stock. It had been nown for over two decades that the Reservation resources were not sufficient to upport the population with anything approaching a decent standard of living, but n the period immediately following the end of the war, the plight of the Navajos was suddenly discovered by the American public. Something had to be done promptly if the problems of this group of Americans were to be solved, and it was pparent to both the Federal Government and the Tribe that whatever might be done, it must be on a long range basis. Emergency relief measures were not th answer. If the Reservation was to support even half of the population, its resource agricultural, mineral, human and other, had to be developed to the greatest exter possible; education had to be provided, and employment or relocation opportunities developed outside the Reservation.

Accordingly, after careful study and consideration, a Long Range Program f the Rehabilitation of the Navajo and Hopi Tribes was enacted into law by Congre in 1950, authorizing the appropriation of a total of $88,570,000 over a 10-yea period. The achievements to date with funds appropriated to accomplish the objectives of the Long Range Program are set forth in the main body of the preser report.

CENSUS FOR 1950
NAVAJO POPULATION BASED ON CENSUS COUNT AND ESTIMATES

	1950	1954 Estimate		1950	1954 Estimate
ew Mexico: (Total)	(22,830)	(29,185)	Arizona: (Total)	(37,861)	(46,873)
McKinley	13,406		Apache	20,293	
San Juan	8,758		Navajo	8,568	
Sandoval	598		Coconino	9,000	
Rio Arriba	43		Utah: (Total)	(1,476)	(1,976)
			San Juan	1,476	
Valencia	25		Estimated off-Reservation	7,000	

INDIAN POPULATION OF ARIZONA
1952(1)

Tribe	Population	No. of Reservations	Area of Reservations in Acres
Navajo	37,000	1	15,141,530[2]
Apache	7,549	2	3,286,396
Papago	7,533	3	2,855,021
Pima	6,751	4	465,169
Hopi	4,834	1	631,194
Quechan	1,146	1	8,743
Mohave	975	2	270,301
Hualapai	561	1	997,060
Yavapai—Apache	467	1	498
Chemehuevi	334	0	0
Havasupai	236	1	3,080
Maricopa	157	0	0
Paiute	91	1	120,453
Cocopah	58	0	0
Yavapai	44	1	71
Other	18	..	(Live on Salt River Res.)
TOTAL	67,754	19	

[1] Publication of Arizona State Employment Service, 1952, entitled "Indian Workers in Arizona."

[2] Arizona portion of Navajo Reservation totals approximately 11,000,000 acres.

HEALTH

During the late summer of 1947 a team of well known medical men carried out a survey of health conditions on the Navajo Reservation at the request of Dr. Wm. A. Morgan, Executive Secretary of the American Medical Association. In their report, they observed that "As a general statement, we believe the health problem of the Navajo may be stated as the prevention and controlling of infectious and communicable diseases in a widely scattered, poorly nourished, ill-housed people. Metabolic and degenerative diseases that are relatively uncontrollable are very uncommon."

Subsequently, the clinical observations of the medical survey team were evaluated on the basis of available facts by Mr. Francis Felzman, Medical Statistician, and members of the Bureau Health Staff. The latter information was consolidated in a report entitled "The Navajo Health Problem," published in mimeographed form by the Window Rock Area Office on October 26, 1951. Many of the tables of statistics developed by Mr. Felzman for that report are republished here because they provide available factual information still valid in understanding the Navajo health situation despite the fact that they are five years old. Additional statistical information provided in this appendix reflects the progress which has been made in the treatment of tuberculosis and enteritis in the past several years.

In regard to mortality statistics it is pointed out in "The Navajo Health Problem" that the crude death rate of 8.9 per 1,000 in 1949 emphasizes the high degree of under-registration of deaths on the Reservation because this rate is 0.8 less than the estimated 9.7 per 1,000 for the general population of the U. S. With the high infant mortality rate among the Navajo, the crude death rate of 8.9 per 1,000 is unrealistic.

It is further observed that the three leading causes of death in 1900 among the U. S. general population were pneumonia-influenza, tuberculosis and diarrhea-enteritis-ulceration of the intestines. By 1948, pneumonia and influenza had dropped to sixth place, tuberculosis to seventh and diarrhea-enteritis had ceased to be a major cause of death. In 1900 these three leading causes of death accounted for 31.4% of the total deaths whereas, in 1949, they accounted for only 5.4% of the deaths within the general population. By contrast, in 1949, these same three causes accounted for 48.5% of the total Navajo deaths. In the non-Navajo population, the decline in mortality rates for the infectious diseases can be largely attributed to advances in public health and medical practices which have not affected the Navajo country as they have the rest of the United States generally. To some extent the Navajo country is a cross section of the general rural population 60 or more years ago, and this is especially true in terms of sanitation.

HOSPITALS CONSTRUCTED SINCE 1889

Navajo

cation	Date Built	NO. & TYPE OF BEDS General	TBC	Orthoped.	Present Status	Remarks
t Wingate	1889	35	----	----	Closed 1946	
pp	1908	29	----	----	Closed 1942	
rock	1908	41	----	----	Operating	Replaced 1915; new bldg. authorized 1950
a City	1911	30	----	----	Used as quarters	Replaced 1928 and 1954
a City	1954	75	----	----	Operating	
t Defiance	1912	----	93	----	Operating	Built as a hospital; enlarged 1929—Tbc. San. since 1939
t Defiance*	1939	115	----	----	Operating*	Navajo Medical Center
wnpoint	1914	?	----	----	--------	Replaced in 1939
wnpoint	1939	36	----	20	Operating	
dlena	1926	20	----	----	Closed 1942	
enta	1927	----	47	----	Closed 1944	
atchi	1927	14	----	----	Closed 1946	Operating as Health Center
nle	1932	15	----	----	Closed 1950	Operating as Health Center
nslow	1933	38	35	----	Operating	
ms Canyon	1913	35	----	----	Operating	Primarily Hopi, but serves Navajo also.

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is not operated at full capacity during past 3 years due to lack of adequate operating funds and sing care.

NAVAJO MEDICAL-HEALTH STAFF

TYPE PERSONNEL	NUMBER 1950	1955
Medical Officers	16	17
Dental Officers	4	6
Nurses (hospital)	62	60
Nurses (Public Health)	8	20
Sanitarians	2	6
Other	208	234
TOTAL	300	343

OUT-PATIENT SERVICES—NAVAJO HOSPITALS AND HEALTH CENTERS*

July 1953 to June 1954

LOCATION—TYPE	INDIVIDUALS					
	Number Annual	Average per Month	Average per Day	Number Annual	Average per Month	Avera per D
Hospitals: All	48,086	4,007	132	57,697	4,808	15
Crownpoint	4,139	345	11	6,109	509	1
Fort Defiance	20,549	1,712	56	21,872	1,823	6
Shiprock	9,394	782	26	11,881	990	3
Tuba City	9,675	806	27	11,323	944	3
Winslow	4,329	361	12	6,512	543	1
Health Centers: All	21,477	1,790	59	30,129	2,511	8
Chinle	9,313	776	26	14,400	1,200	3
Gallup	11,517	960	32	14,993	1,249	4
Tohatchi	647	54	2	736	61	

* From Navajo Agency records.

OFF RESERVATION SANATORIA for TREATMENT OF TUBERCULOSIS

(December 30, 1954)

Sanatorium	Patients	Admissions	Discharges	Patient Days
Barfield Sanatorium Tucson, Arizona	62	0	1	1,944
Cragmore Sanatorium Colorado Springs, Colo.	63	1	0	1,934
Ft. Stanton Sanatorium Ft. Stanton, N.M.	92	0	1	2,723
Mesa Vista Sanatorium Boulder, Colorado	109	2	1	3,370
Pottenger Sanatorium Monrovia, California	54	7	11*	1,710
Presbyterian Hospital Albuquerque, N.M.	24	0	0	744
Santa Teresita Sanatorium Duarte, California	18	5	1	454
Santa Teresita Sanatorium (Special) Duarte, California	7	0	0	217
State TB Sanatorium Socorro, New Mexico	20	4	0	505
Valmora Sanatorium Valmora, N.M.	12	0	0	369
TOTALS	461	19	15	13,970

* One deceased.

CASES AND CASE RATES—COMPARATIVE—NAVAJO-HOPI
Calendar Year 1953
(Rates for 100,000)

Disease	NAVAJO Number	NAVAJO Rate	HOPI Number	HOPI Rate
Tuberculosis, respiratory	624	850.1	8	186.0
Tuberculosis, other forms	170	231.6	8	186.0
Syphilis and its sequelae	417	568.1	5	116.3
Gonococcal infections	428	583.1	2	46.5
Typhoid fever	5	6.8	0	0
Dysentery, all forms*	115	156.7	0	0
Scarlet fever—strep. sore throat	11	15.0	1	23.3
Whooping cough	24	32.7	0	0
Meningococcal infections	16	21.8	1	23.3
Acute poliomyelitis	8	10.9	0	0
Acute infectious encephalitis	2	2.7	0	0
Measles	776	1057.2	19	441.9
Chicken pox	163	222.1	0	0
Mumps	264	359.7	0	0
Infectious hepatitis	31	42.2	0	0
Trachoma	423	576.3	29	674.4
Rocky Mountain spotted fever	2	2.7	0	0
Trichinosis	3	4.1	0	0
Scabies	19	25.9	0	0
Influenza	859	1170.3	55	1279.1
Pneumonia	802	1092.6	82	1907.0
Puerperal sepsis	6	8.2	0	0

* Apparently does not include enteritis. Hopi data reflects inaccurate reporting.

BIRTHS AND BIRTH RATES, NAVAJO AND U. S. GENERAL POPULATION (
1944-1949

YEAR	NUMBER		RATE PER 1,000 LIVE BIRTHS	
	Navajo	U. S. General Population	Navajo	U. S. General Populatio
1949	1808	3,576,000	26.8	26.1
1948	1281	3,080,316	19.5	23.6
1947	1434	3,274,620	22.5	25.5
1946	1415	2,913,645	22.6	23.0
1945	1176	2,395,563	19.2	19.2
1944	1242	2,454,700	20.5	19.8

[1] Table I, report, "The Navajo Health Problem," mimeo., Oct. 26, 1951.

BIRTH AND DEATH RATES
Navajo(1)

Calendar Year	BIRTH Rate 1,000 Est. Population	DEATH Rate 100,000 Est. Population	Calendar Year	BIRTH Rate 1,000 Est. Population	DEATH Rate 100,0 Est. Populat
1954	33.6	761.0	1948	19.5	1,090.8
1953	33.8	870.6	1947	22.5	1,106.2
1952	33.7	937.4	1946	22.6	
1951	31.7	1,052.4	1945	19.2	1,107.1
1950	29.3	987.7	1944	20.5	1,107.9
1949	26.8	891.3			

[1] Exclusive of Fetal Deaths.
SOURCE—Birth and Death certificates on file in Census Office, Navajo Agency.

COMPARATIVE BIRTH, INFANT MORTALITY AND MATERNAL MORTALITY RATES FOR NAVAJO AND GENERAL POPULATI

	1949		1953	
	Navajo	U. S. Gen. Pop.	Navajo	U. S. Gen. Pop.
Birth Rate per 1,000 Population	27	24	33.7	24.7
Infant Mortality Rate per 1,000 Pop.	138.3	31.1	126.7	28.0
Maternal Mortality Rate per 1,000 Pop.	1.6	0.8	1.6	0.8

ATERNAL MORTALITY RATES, NAVAJO AND U. S. GENERAL POPULATION
1944-1949[1]

EAR	NUMBER OF MATERNAL DEATHS		RATE	
	Navajo	U. S. Gen'l Pop.	Navajo	U. S. Gen'l Pop.
1949	3	2954	1.6	0.8
1948	8	2753	6.2	0.9
1947	12	3555	8.4	1.1
1946	5	3807	3.5	1.3
945	7	4122	6.0	1.7
944	6	4648	4.8	1.9

[1] Table 8, report, "The Navajo Health Problem," mimeo., Oct. 26, 1951.

RTH RATES BY AGE OF MOTHER: NAVAJO & U. S. GENERAL POPULATION[1]
1944-1949

YEAR	15-44	AGE OF MOTHER							
		10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49
49 N.	126.1	0.2	52.0	241.5	168.4	131.7	111.7	64.7	21.4
S. G.	102.6	0.4	71.6	190.5	163.6	100.2	51.7	14.3	1.0
48 N.	91.8	0.2	36.5	175.7	120.5	101.2	83.6	42.0	16.2
S. G.	102.8	0.4	70.4	189.5	161.8	101.7	52.5	14.8	1.0
47 N.	105.5	0.2	45.8	201.4	133.4	106.0	93.4	43.1	19.6
S. G.	109.6	0.3	68.6	199.9	176.6	110.0	57.0	15.7	1.1
46 N.	106.1	....	43.2	204.9	142.6	108.1	86.9	43.9	20.0
S. G.	97.6	0.3	49.5	171.5	161.3	106.4	56.6	15.4	1.1
45 N.	90.4	0.5	39.2	150.7	111.7	101.5	95.6	46.7	19.4
S. G.	81.0	0.3	41.1	127.7	130.6	96.7	54.3	15.4	1.2
44 N.	96.1	0.2	35.5	184.2	113.3	111.5	91.0	41.2	14.4
U. G.	83.4	0.3	43.9	139.9	134.7	94.0	51.9	14.9	1.1

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[1] ble 2, report, "The Navajo Health Problem," mimeo., Oct. 26, 1951. N denotes Navajo; .G. denotes United States General.

INFANT MORTALITY FOR SELECTED CAUSES FOR NAVAJOS COMPARE WITH RATE FOR SAME CAUSES FOR U. S. GENERAL POPULATION (1)

CAUSE OF DEATH	NUMBER OF DEATHS		RATE PER 1,000 LIVE BIRTHS		PERCENT OF TOTAL INFANT DEATI	
	Navajo	U. S. Gen'l Pop.	Navajo	U. S. Gen. Pop.	Navajo	U. S. Gen. Po
Diseases of early infancy	64	49,101	35.4	13.7	25.6	44.2
Diarrhea and enteritis**	59	6,011	32.6	1.7	23.6	5.4
Pneumonia—influenza	56	9,110	31.0	2.5	22.4	8.2
Tuberculosis—all forms	12	315	6.6	0.9	4.8	0.3
Syphilis—all forms	8	323	4.4	0.9	3.2	0.3
Congenital malformations	6	14,720	3.3	4.1	2.4	13.2
Peritonitis, acute	4	----	2.2	----	1.6	----
Meningitis, non tbc.	4	----	2.2	----	1.6	----
Ill-defined and unknown causes	11	----	6.1	----	4.4	----
All other causes	26	31,620	14.4	8.8	10.4	28.4
Total Infant Deaths	250	111,200	138.3	31.1		
Total Deaths	600	1,446,000				
Total Births	1,808	3,576,000				

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[1] Table 10, report, "The Navajo Health Problem," mimeo., Oct. 6, 1951.

** Undoubtedly low due to inaccurate reporting.

INFANT MORTALITY RATES FOR NAVAJOS & U. S. GENERAL POPULATION(
1944-1949

AGE AND YEAR	NUMBER OF INFANT DEATHS		RATE	
	Navajo	U. S. Gen'l Pop.	Navajo	U. S. Gen'l Pop.
Under 1 year, 1949	250	111,200	138.3	31.1
Under 1 year, 1948	291	92,034	227.2	29.9
Under 1 year, 1947	275	98,547	191.8	30.1
Under 1 year, 1946	214	92,510	151.2	31.8
Under 1 year, 1945	257	85,295	218.5	35.6
Under 1 year, 1944	231	90,607	186.0	36.9

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[1] Table 9, report, "The Navajo Health Problem," mimeo. Oct. 26, 1951.

NUMBER OF DEATHS AND DEATH RATES—COMPARATIVE NAVAJO-HOPI-GENERAL U. S. POPULATION

Calendar Year 1953—(Rates per 100,000)

CAUSE	NAVAJO Number	NAVAJO Rate	HOPI Number	HOPI Rate	GENERAL U. S. POP. Rate
uberculosis, all forms	43	58.6	2	46.5	12.5
Tuberculosis, respiratory	(22)	(30.0)	(2)	(46.5)	(11.3)
Tuberculosis, other forms	(21)	(28.6)	(0)	(0)	(1.2)
yphilis and its sequelae	4	5.4	0	0	3.4
ysentery, all forms	3	4.1	0	0	0.4
hooping cough	2	2.7	0	0	0.2
eningococcal infections	2	2.7	0	0	0.8
cute poliomyelitis	1	1.4	0	0	1.1
easles	6	8.2	0	0	0.3
ther infective-parasitic diseases	2	2.7	0	0	2.8
alignant neoplasms	22	30.0	0	0	144.7
scular lesions—central nerv. sys.	6	8.2	0	0	108.2
n-meningococcal mening.	8	10.9	0	0	1.4
art diseases	26	35.4	1	23.3	357.6
luenza	6	8.2	0	0	6.0
eumonia	69	94.0	2	46.5	27.0
nchitis	3	4.1	0	0	2.3
pendicitis	3	4.1	0	0	1.6
stritis-enteritis-colitis*	113	154.0	2	46.5	5.4
phritis-nephrosis	3	4.1	0	0	1.6
mplications of pregnancy	5	6.8	0	0	1.4
ngenital malformations	9	12.3	0	0	12.6
h injuries p.n. asphyxia	18	24.5	0	0	18.6
ctions of newborn	28	38.1	0	0	2.7
her early infancy	36	49.0	2	46.5	19.3
S ility—other ill defined	93	126.7	0	0	12.7
A idents, motor vehicle	46	62.7	2	46.5	24.2
A idents, other	35	47.7	5	116.3	36.6
H icide	4	5.4	0	0	5.0
D etes mellitus	0	0	1	23.3	....
A other	43	58.6	4	93.0	....
TOTAL—ALL CAUSES	639	870.6	21	488.4	958.9

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* ; figure reflects more accurate reporting of enteritis than in the table showing cases and case rates for same year.

TEN LEADING CAUSES OF DEATH ON THE NAVAJO RESERVATION COMPARE WITH SAME CAUSES AMONG THE GENERAL POPULATIONS OF ARIZONA NEW MEXICO AND THE U. S.(¹) (1948)

CAUSE OF DEATH	RATE PER 100,000 Navajo	Ariz.	N. M.	U. S.	PERCENT OF TOTAL DEAT Navajo	Ariz.	N. M.	U.
Tuberculosis, all forms	230.4	82.4	53.1	30.0	21.1	8.8	5.4	3
Pneumonia-Influenza	151.0	58.9	70.1	38.7	13.8	6.3	7.1	3
Diarrhea-Enteritis	138.8	33.7	49.4	6.0	12.7	3.6	5.0	0
Accidents—non m.v.	53.4	56.2	55.5	45.0	4.9	6.0	5.6	4
Premature births	33.6	34.4	55.9	26.7	3.1	3.7	5.7	2
Whooping cough	30.5	2.8	7.5	0.8	2.8	0.3	0.8	0
Syphilis, all forms	22.9	8.9	11.0	8.0	2.1	1.0	1.1	0
Accidents, motor veh.	19.9	35.9	39.6	22.1	1.8	3.8	4.0	2
Heart diseases	18.3	202.3	161.3	322.7	1.7	21.6	16.4	32
Cancer—malignant tum.	16.8	86.6	77.9	134.9	1.5	9.3	7.9	13
Sub-Total	716.6	602.1	581.3	634.9	65.5	64.4	59.0	64
TOTAL DEATHS—ALL CAUSES	1090.8	935.5	982.3	988.5				
POPULATIONS NUM.	65,546	704,000	571,000	146,113,000				

¹ Adapted from table 4a—Report, "The Navajo Health Problem," mimeo. Oct. 26, 1951.

TEN LEADING CAUSES OF DEATH AMONG NAVAJOS AND GENERAL U. S. POPULATION FOR 1949(¹)

	1949 RATE PER 100,000 POPULATION Navajo	U. S. Gen. Pop.	PERCENT OF TOTAL DEAT Navajo	U. S. Gen. P
1. Tuberculosis—all forms	205.0	20.8	23.0	2.2
2. Pneumonia-Influenza	118.8	23.8	13.3	2.5
3. Diarrhea-Enteritis	108.4	6.3	12.2	0.7
4. Diseases of Early Infancy	95.1	30.9	10.7	3.2
5. Accidents—non motor vehicle	38.6	37.9	4.3	4.0
6. Major cardiovascular-renal	25.3	504.9	2.8	52.8
7. Cancer—malignant tumors	22.3	145.9	2.5	15.3
8. Meningitis—non tbc	19.3	-------	2.2	-------
9. Syphilis—all forms	17.8	4.1	2.0	0.4
10. Accidents—motor vehicle	13.4	21.2	1.5	2.2

¹ Adapted from Table 4, report, "The Navajo Health Problem," mimeo. Oct. 26, 1951.

ANALYSIS OF DEATHS 1942-1953
NAVAJO MEDICAL CENTER AT FT. DEFIANCE

	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953
Total Hospital Admissions	2,305	2,089	2,290	2,256	2,885	3,051	2.502	2,625	3,413	3,647	2,747	2,457
Adult Admissions	....	....	1,422	....	1,932	....	....	....	....	2,322	1,981	1,701
Child Admissions	....	....	868	....	953	....	....	....	....	1,325	866	756
Total Deaths	130	126	168	151	184	196	172	142	121	117	88	63
Adult Deaths	63	73	92	76	89	101	88	66	51	61	48	30
Child Deaths	67	53	77	75	96	95	84	77	71	56	40	33
otal Deaths from TBC	....	....	83	....	86	106	79	43	39	29	22	10
Adult TBC Deaths	....	....	63	....	61	73	59	32	27	24	15	5
Child TBC Deaths	23	19	20	29	25	33	20	11	12	5	7	5
otalChild Diarrhea Deaths	14	13	27	29	29	26	14	27	18	9	11	14

NAVAJO DEATHS, RATES, FOR ALL CAUSES, COMPARED WITH ESTIMATED DEATHS AND RATES FOR ALL CAUSES BY AGE AND SEX, GENERAL U. S. POPULATION, 1949(1)

AGE AND SEX	DEATHS		RATE PER 1,000	
	Navajo	U. S. Gen'l Pop.	Navajo	U. S. Gen'l Pop.
All Ages	600	1,446,000	8.9	9.7
Male	338	824,220	9.9	11.2
Female	262	621,780	7.9	8.3
Under 1 Year	250	111,200	106.1	34.0
Male	152	64,001	125.4	38.3
Female	98	47,199	85.6	29.5
1-14 Years	107	34,246	3.9	0.9
Male	52	19,959	3.8	1.1
Female	55	14,287	4.0	0.8
15-24 Years	68	29,081	5.3	1.3
Male	32	18,585	5.1	1.7
Female	36	10,496	5.4	0.9
25-44 Years	87	121,785	5.6	2.8
Male	43	72,319	5.5	3.4
Female	44	49,466	5.7	2.2
45-64 Years	41	406,425	6.3	13.3
Male	28	255,196	7.8	16.8
Female	13	151,229	4.4	9.8
65-74 Years	25	333,557	14.8	43.4
Male	17	190,034	18.0	51.2
Female	8	143,523	10.8	36.2
75 years and over	22	405,825	29.7	113.1
Male	14	201,730	34.7	123.8
Female	8	204,095	23.7	104.2

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[1] ble 3, report, "The Navajo Health Problem," mimeo. Oct. 26, 1951.

COMPARATIVE DEATH RATES, RANK ORDER, AND PERCENT OF TOTA DEATHS FOR THE 10 LEADING CAUSES OF DEATH FOR U. S. GENERAL POPULATION, AND NAVAJO POPULATION, 1953*

Rank Order	Cause of Death General Population U. S.—Navajo	GENERAL POP. U. S.		NAVAJO	
		Death Rate	Percent of All Deaths	Death Rate	Percent of All Deaths
1.	Diseases of the heart	357.6	37.3	35.4	4.1
2.	Malignant neoplasms	144.7	15.1	30.0	3.4
3.	Vascular lesions—central n. s.	108.2	11.3	8.2	5.5
4.	Accidents	60.8	6.3	110.4	12.7
5.	Certain diseases of early infancy	40.6	4.2	111.7	12.8
6.	Influenza-Pneumonia	33.0	3.4	102.2	11.7
7.	General arteriosclerosis	20.7	2.2	0	0
8.	Diabetes mellitus	16.0	1.7	0	0
9.	Congenital malformation	12.6	1.3	12.3	.14
10.	Tuberculosis, all forms	12.5	1.3	58.6	6.7

Rank Order	Cause of Death Navajo Population—Gen'l Pop. U. S.	NAVAJO		GENERAL POP. U. S.	
		Death Rate	Percent of All Deaths	Death Rate	Percent of All Deaths
1.	Diarrhea-Enteritis	154.0	17.7	5.4	--------
2.	Diseases of early infancy	111.7	12.8	40.6	4.2
3.	Pneumonia-Influenza	102.2	11.7	33.0	3.4
4.	Tuberculosis—all forms	58.6	6.7	12.5	1.3
5.	Accident—motor vehicle	62.7	7.2	24.2	--------
6.	Accidents—non motor vehicle	47.7	5.5	36.6	--------
7.	Major cardiovascular-renal	47.7	5.5	513.4	--------
8.	Malignant neoplasms—tumors	30.0	3.4	144.7	15.1
9.	Meningitis—non-tuberculous	10.9	1.3	1.4	--------
10.	Syphilis—all forms	5.4	0.6	3.4	--------

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* Statistics relative to General Population, U. S., from Annual Summary for 1953, Part 2, Monthly Vital Stati Report, Vol. 2, No. 13, Publ. by U. S. Dept. of Health, Education and Welfare. Statistics relative to Na from Navajo Agency records.

NAVAJO DEATHS AND DEATH RATES FOR SELECTED CAUSES
1953-1954

Cause	DEATHS Calendar Year 1953	DEATHS Calendar Year 1954	RATE per 100,000 Est. Population 1953	RATE per 100,000 Est. Population 1954
TOTAL— ALL CAUSES	639	573	870.6	761.0
Tuberculosis, all forms	43	40	58.6	53.1
Respiratory	22	33	30.0	43.8
Other forms	21	7	28.6	9.3
Syphilis and its sequelae	4	----	5.4	----
Typhoid Fever	----	----	----	----
Dysentery, all forms	3	8	4.1	10.6
Diphtheria	----	----	----	----
Whooping Cough	2	----	2.7	----
Meningoccoal infections	2	----	2.7	----
Plague	----	----	----	----
Tularemia	----	----	----	----
Acute poliomyelitis	1	----	1.4	----
Smallpox	----	----	----	----
Measles	6	11	8.2	14.6
Rocky Mountain spotted fever	----	----	----	----
Malaria	----	----	----	----
All other infectious and parasitic diseases	2	2	2.7	2.7
Malignant neoplasms	22	17	30.0	22.6
Diabetes mellitus	----	1	----	1.3
ascular lesions affecting the central nervous system	6	11	8.2	14.6
Non-meningococcal meningitis	8	5	10.9	6.6
eart diseases	26	21	35.4	27.9
fluenza	6	3	8.2	4.0
Pneumonia	69	93	94.0	123.5
Bronchitis	3	5	4.1	6.6
Appendicitis,	3	1	4.1	1.3
Gastritis, duodenitis, enteritis and colitis	113	83	154.0	110.2
Nephritis and nephrosis	3	13	4.1	17.3
Complications of pregnancy, childbirth and the puerperium	5	6	6.8	8.0
Congenital malformations	9	13	12.3	17.3
Birth injuries, postnatal asphyxia and atelectasis	18	13	24.5	17.3
Infections of the newborn	28	19	38.1	25.2
Other diseases peculiar to early infancy and immaturity unqualified	36	45	49.1	59.8
Symptoms, senility and ill-defined conditions	93	72	126.7	95.6
Motor vehicle accidents	46	24	62.7	31.9
All other accidents	35	37	47.7	49.1
Suicide and self-inflicted injury	----	4	----	5.3
Homicide and operations of war	4	3	5.4	4.0
All other causes	43	23	58.6	30.5

Estimated population 7/1/1853....................73,400

Estimated population 7/1/1954....................75,300

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[1] ludes gonorrhea, typhoid, food poisoning, tetanus, encephalitis, hepatitis, typhus, sleeping sickness, etc.

FIVE YEAR AVERAGE OF AGE SPECIFIC TBC DEATH RATES FOR NAVAJOS AND U. S. GENERAL POPULATION BY AGE AND SEX

(Rate per 100,000 Population)([1])—1944-1948

	RATE					
AGE GROUP	NAVAJO INDIANS			U. S. GENERAL POPULATION		
	Both Sexes	Male	Female	Both Sexes	Male	Female
All Ages	272.2	271.6	273.0	29.4	39.5	19.7
Under 1 Year	500.7	478.1	524.9	10.3	10.4	10.1
1- 4	313.9	372.8	255.0	6.0	6.0	5.9
5- 9	168.1	187.8	148.5	1.6	1.6	1.5
10-14	145.1	154.7	135.2	2.0	1.6	2.4
15-19	229.5	261.3	199.2	9.2	7.2	11.2
20-24	585.3	617.7	555.6	21.7	19.8	23.1
25-29	378.3	309.9	441.4	26.1	26.5	25.9
30-34	277.0	185.1	371.9	38.5	30.8	26.5
35-39	282.0	188.9	382.5	32.7	40.1	25.6
40-44	227.7	188.4	271.0	37.3	47.8	22.3
45-49	178.2	70.8	298.9	42.9	65.9	20.1
50-54	165.3	212.5	106.2	50.8	80.8	20.4
55-59	191.3	173.9	212.6	56.3	89.6	22.3
60-64	298.9	318.9	273.2	63.2	98.6	27.6
65-69	417.0	455.6	371.9	71.9	106.4	38.7
70-74	371.9	546.7	127.5	71.4	99.4	45.8
75 and over	318.8	371.9	255.1	73.4	94.8	55.2

[1] Table 6 report, "The Navajo Health Problem," mimeo. Oct. 6, 1951.

DEATH AND DEATH RATES FROM ENTERITIS-GASTRITIS-DIARRHEA([1])

Navajo—1944-1954

Calendar Year	Number Deaths	Rate 100,000 Est. Population	Calendar Year	Number Deaths	Rate 100,000 E Populati
1954	83	110.2	1948	91	138.8
1953	113	154.0	1947	67	105.0
1952	99	137.7	1946	77	123.0
1951	127	179.9	1945	110	180.1
1950	92	132.6	1944	83	136.8
1949	73	108.4			

[1] Includes diarrhea in children aged 4 weeks to 2 years.

SOURCE—Death certificates on file in Census Office, Navajo Agency.

INFANT DEATHS AND DEATH RATES FOR SELECTED CAUSES, NAVAJO

1953-1954

Cause	RATE per 1,000 Live Births		DEATHS Calendar Year	
	1953	1954	1953	1954
TOTAL— ALL CAUSES	314	275	126.7	108.6
Tuberculosis, all forms	10	5	4.0	2.0
Syphilis and its sequelae	1	----	0.4	----
Typhoid Fever	----	----	----	----
Dysentery, all forms	2	5	0.8	2.0
Erysipelas	----	----	----	----
Septicemia and pyemia	----	----	2	0.8
Diphtheria	----	----	----	----
Whooping Cough	2	----	0.8	----
Meningococcal infections	1	----	0.4	----
All other infectious and parasitic diseases	4	7	1.6	2.8
Influenza	4	3	1.6	1.2
Pneumonia	52	63	21.0	24.9

Cause	RATE per 1,000 Live Births		DEATHS Calendar Year	
	1953	1954	1953	1954
Bronchitis	----	1	----	0.4
Gastritis, duodenitis, enteritis and colitis	97	72	39.1	28.4
Congenital malformations	9	9	3.6	3.6
Birth injuries, post-natal asphyxia and atelectasis	18	13	7.3	5.1
Pneumonia of newborn	11	2	4.4	0.8
Diarrhea of newborn	9	10	3.6	3.9
Other infections of newborn	8	7	3.2	2.8
Other diseases peculiar to early infancy	21	31	8.5	12.2
Immaturity	15	14	6.1	5.5
Symptoms and ill-defined causes	33	20	13.3	7.9
Accidents, poisonings and violence	3	2	1.2	0.8
All other causes	14	9	5.6	3.6

EDUCATION

DATES OF ESTABLISHMENT OF THE OLD FEDERAL AND MISSION RESERVATIO BOARDING SCHOOLS AND OF CERTAIN OTHER SCHOOLS SERVING TH NAVAJO[8]

Year	Location of School	Year	Location of School
1883	Fort Defiance, Arizona	1886	Grand Junction, Colorado[2]
1887	Keams Canyon, Arizona[1]	1891	Santa Fe, New Mexico
1900	Tohatchi, New Mexico	1891	Phoenix, Arizona
1901	Tuba City, Arizona	1892	Fort Lewis, Colorado[3]
1907	Shiprock, New Mexico	1893	Fort Apache, Arizona[4]
1909	Leupp, Arizona	1902	Sherman Institute, California
1910	Chinle, Arizona	1898	St. Michaels, Arizona[5]
1912	Crownpoint, New Mexico	1901	Rehoboth, New Mexico[6]
1913	Toadlena, New Mexico	1912	Ganado, Arizona[7]
1925	Fort Wingate, New Mexico	--------	Farmington, New Mexico[8]
1881	Albuquerque, New Mexico		

[1] Built primarily for the Hopi—presently serves both Navajo and Hopi.
[2] Closed July 1, 1911.
[3] Closed July 30, 1910.
[4] Theodore Roosevelt School—no longer available to Navajos.
[5] Operated by Sisters of the Blessed Sacrament—Roman Catholic.
[6] Operated by Christian Reformed Church.
[7] Operated by Presbyterian Church.
[8] Operated by the Methodist Church.

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[8] During the Fort Sumner Exile Period a very few Navajo children reportedly received intermittent instructions from priests, and although the treaty of 1868 provided for education, no effective steps in the direction of providing the necessary facilities were taken until many years later. In 1870 a small school was set up by missionaries in an abandoned adobe house at Fort Defiance, but its tragi-comic career was short-lived. In 1883 the Fort Defiance Boarding School was completed and was the first major step in the direction of Education for the Navajos. In 1882 twelve Navajo children went to Carlisle Indian School. From 1880-1910 Navajo education was largely a mission function, especially in terms of the Presbyterian Board of Home Missions, for Mr. Bishop Kendell, Secretary of that Board contracted with the Indian Service to supply teachers and school equipment, and give courses in agriculture, mechanical arts, sewing and housekeeping. Protestant mission work began on the San Juan River in 1891, and later the Navajo Methodist Mission and school was established at Farmington, New Mexico. The Franciscan Fathers established their mission at St. Michaels, Arizona in 1897 and the Boarding School there was opened soon after. With the establishment of Federal Boarding Schools at Albuquerque and Santa Fe, New Mexico, Navajo students began to leave the reservation in increasing numbers, with many also attending the Federal Boarding Schoo at Fort Lewis, Sherman, Carlisle, Chilocco, F Apache, and Haskell. Twelve Navajos attende Hampton Institute.

Following the establishment of the Fort Defian Boarding School, a school was built at the o Western Agency at Albert. The latter was abandon with purchase of land and buildings at Tuba Ci from the Mormon settlers, and the agency and scho were reestablished at the new location. The oth old boarding schools followed, and in 1935 the were 10 boarding schools, 6 government day schoo and 6 mission boarding schools on or near Reservation.

The availability of funds in 1933 and 1934 ma possible the construction of additional school faci ties on the Navajo Reservation, and 42 new d schools were built. Difficulties of operation on a d basis subsequently made it necessary to convert operation of thee facilities to a boarding bas This was accomplished by the use of makesh dormitories during the war years and the Lo Range Act, in 1950, provided for the constructi of standard dormitory facilities at certain Reservati Day Schools, as well as for repair of the existi Boarding Schools.

GROWTH OF NAVAJO EDUCATION(1)

YEAR	Navajo Population	Number of Children 6-16	Number of Children in School	Percentage of Children Out of School	Percentage of Children in School
1868	7,000	2,000	0	100	0
1878	11,850	4,000	0	100	0
1888	18,000	5,000	35	99	.7
1898	20,500	6,000	185	97	3
1908	22,600	6,500	770	88	12
1918	29,959	8,500	1,881	78	22
1928	40,000	10,500	5,000	52	48
1932	41,689	11,741	5,719	51	49
1935	45,000	13,100	6,681	49	51
1940	48,722	12,638	6,164	51	49
1941	50,522	12,245	7,098	42	58
1942	52,322	13,936	5,916	58	42
1943	54,122	16,933	6,428	62	38
1944	55,922	19,866	6,703	66	34
1945	57,722	21,413	6,543	69	31
1946	59,522	24,324	8,142	67	33
1947	61,051	24,366	9,239	62	38
1948	63,025	23,997	9,584	60	40
1949	65,000	24,025	11,099	54	46
1950	69,167	24,522	12,751	48	52
1953	74,567	27,362	16,143	41	59
1954	78,000	28,000	22,463[2]	20	80

[1] There are no records available to provide curate information relative to the Navajo census, ther in terms of the general or of the school age pulation, until very recent times. Although esti- tes of Navajo population have been provided riodically from 1868 to the present, they have en highly arbitrary until very recent years. The ure pertaining to the population in 1868 presu- bly reflects the number of Navajos taken to Fort mner, and does not include the unknown, but no ubt significant, number who remained in in- cessible reaches of the Navajo country during the le period. Subsequent population statistics for the aty period are based on counts of Navajos ap- aring at the Agency for rations, and from 1878 il recent times census estimates have been based a variety of premises. During the past 15 years population estimates have probably been more urate than ever before, although the census re- ins a close estimate and not an actual count n today.

In regard to the school population, figures per- ing to the period prior to 1945 are, like the eral census, more or less uncertain estimates. ar rationing during the war provided a fairly reliable basis for estimating the population, both general and school age, after 1945, and subsequently techniques were developed for taking a relatively accurate census of school age children based on actual count.

Study of the table given will reveal many discrepancies; for example, the general and school age populations in 1935 are shown as 45,000 and 13,000 respectively, whereas corresponding figures five years later are given as 48,722 and 12,638!

The school enrollment figures are presumably accurate, since they are based on actual attendance counts.

Every effort will be made in subsequent revisions of this appendix to provide more accurate historical information with regard to the census. The value of the table provided here lies in the fact that it shows the trend, both in terms of population growth and the growth of the school system with relation to the Navajo.

[2] As of February 11, 1955.

NAVAJO SCHOOL ENROLLMENT

TYPE OF SCHOOL AND LOCATION	NUMBER OF CHILDREN ENROLLED 1954-55[1]	1953-54	1952-53	1951-52	1951-52
Public Schools:	1,027	--------	--------	--------	--------
Aztec, N. M.	115	--------	--------	--------	--------
Gallup, N. M.	341	--------	--------	--------	--------
Holbrook, Ariz.	129	--------	--------	--------	--------
Richfield, Utah	127	--------	--------	--------	--------
Snowflake, Ariz.	120	--------	--------	--------	--------
Winslow, Ariz.	195	--------	--------	--------	--------
Off-Res. Schools:	6,499	4,969[3]	4,934[3]	4,709[3]	648[3]
Albuquerque	506	351	267	287	134
Chemawa	452	275	244	203	0
Chilocco	438	304	325	322	0
Haskell	177	20	23	22	0
Intermountain	2,340	2,187	2,299	2,214	0
Phoenix	547	341	323	324	29
Sherman	770	590	553	517	9
Stewart	381	204	246	253	0
Cheyenne-Arapahoe	124	52	50	50	0
Fort Sill	153	87	71	60	0
Riverside	189	103	84	67	0
Ignacio	161	161	79	65	169
Jicarilla	28	24	34	26	0
Keams Canyon	233	153	173	177	185
Reservation Boarding[2]	6,062	4,609	4,183	4,081	--------
Chinle	281	294	256	240	--------
Lukachukai	175	147	148	151	--------
Nazlini	195	55	36	35	--------
Pinon	220	174	165	177	--------
Crownpoint	325	352	349	334	--------
Standing Rock	64	65	65	67	--------
Ft. Defiance	410	324	381	447	--------
Crystal	110	77	73	72	--------
Hunters Point	92	74	69	76	--------
Pine Springs	78	64	67	53	--------
Greasewood	180	63	62	62	--------
Seba Dalkai	98	63	63	65	--------
Steamboat	140	74	70	72	--------
Shiprock	867	297	188	188	--------
Nenahnezad	192	176	172	162	--------
San Juan	190	219	190	180	--------
Toadlena	217	250	247	242	--------
Sanostee	134	0	0	0	--------
Tohatchi	182	164	161	185	--------
Coyote Canyon	70	65	65	57	--------
Tuba City	530	508	441	440	--------
Dennehotso	181	161	160	156	--------
Kaibeto	196	110	72	73	--------
Kayenta	40	35	42	38	--------
Fort Wingate	534	553	450	473	--------
Cheechilgeetho	88	74	36	36	--------
Thoreau	178	171	155	0	--------
Mariano Lake	95	0	0	0	--------

TYPE OF SCHOOL AND LOCATION	NUMBER OF CHILDREN ENROLLED				
	1954-55[1]	1953-54	1952-53	1951-52	1951-52
Res. Community Schools[2]:	1,490	1,338	1,272	1,259	--------
Rock Point	90	72	78	75	--------
Rough Rock	64	34	35	39	--------
Lake Valley	49	43	39	39	--------
Pueblo Pintado	58	51	38	43	--------
Torreon	85	72	63	58	--------
White Horse	40	41	38	43	--------
Klagetoh	71	77	65	67	--------
Kinlichee	77	86	75	70	--------
Leupp	73	74	64	33	--------
Tolani Lake	63	64	62	65	--------
Wide Ruins	95	71	66	59	--------
Aneth	67	73	68	61	--------
Beclabito	35	35	40	43	--------
Huerfano	38	36	40	55	--------
Red Rock	89	79	75	86	--------
Teec Nos Pos	90	70	63	71	--------
Naschitti	73	67	75	70	--------
Twin Lakes	86	82	70	65	--------
Navajo Mountain	31	34	33	33	--------
Shonto	80	73	82	79	--------
Baca	105	69	72	72	--------
Pinedale	31	35	31	33	--------
Day Schools[2]:	602	625	425	352	--------
Many Farms	101	76	37	39	--------
Round Rock	72	57	37	39	--------
Salina Springs	36	41	32	0	--------
Cornfields	56	69	47	36	--------
Ganado	64	64	64	68	--------
Cove	58	60	48	0	--------
Nava	63	76	64	62	--------
Moenave	44	40	0	0	--------
Bellemont	67	99	65	76	--------
Iyanbito	41	43	31	32	--------
Hogan Schools:	342	169	--------	--------	--------
Burnt Corn	20	19	--------	--------	--------
Lukachukai	30	27	--------	--------	--------
Tsaile	26	--------	--------	--------	--------
Wheatfields	23	--------	--------	--------	--------
Black Rock	27	--------	--------	--------	--------
Lukachukai #2	12	--------	--------	--------	--------
Low Mountain	39	30	--------	--------	--------
Bob Cat Butte	--------	--------	--------	--------	--------
Castle Butte	--------	--------	--------	--------	--------
Naschitti	7	--------	--------	--------	--------
Signal Point	--------	--------	--------	--------	--------
Sheep Springs	21	19	--------	--------	--------
Dewey's Etcitty's	--------	--------	--------	--------	--------
Pinetree	10	--------	--------	--------	--------
Bellemont	77	74	--------	--------	--------
Inscription House	--------	--------	--------	--------	--------
Oak Springs	18	--------	--------	--------	--------
Owl Springs	--------	--------	--------	--------	--------
Salina Springs	32	--------	--------	--------	--------

TYPE OF SCHOOL AND LOCATION	NUMBER OF CHILDREN ENROLLED 1954-55[1]	1953-54	1952-53	1951-52	1951-52
Trailer Schools:	1,022	179	117	--------	--------
Cottonwood	93	--------	--------	--------	--------
Low Mountain	100	33	--------	--------	--------
Tahchee	32	--------	--------	--------	--------
Valley Store	28	--------	--------	--------	--------
Whipporwill	22	--------	--------	--------	--------
Canyon del Muerto	40	--------	--------	--------	--------
Borrego Pass	29	26	26	--------	--------
Beggs Store	10	--------	--------	--------	--------
Kimbeto	27	35	19	--------	--------
Nageezi	22	--------	--------	--------	--------
Pinon Lodge	7	--------	--------	--------	--------
Ojo Encino	12	--------	--------	--------	--------
Wilson	30	--------	--------	--------	--------
Indian Wells	33	--------	--------	--------	--------
Sand Springs	26	--------	--------	--------	--------
Sunrise	26	--------	--------	--------	--------
White Cone	31	--------	--------	--------	--------
Hatches Store	17	--------	--------	--------	--------
Mexican Water	7	--------	--------	--------	--------
Red Mesa	12	--------	--------	--------	--------
Sweet Water	7	--------	--------	--------	--------
Sheep Springs	20	--------	--------	--------	--------
Tocito	13	--------	--------	--------	--------
Tohlakai	22	--------	--------	--------	--------
Rock Springs	18	--------	--------	--------	--------
Cain Valley	28	--------	--------	--------	--------
Cameron	8	--------	--------	--------	--------
Chilchinbeto	54	32	28	--------	--------
Copper Mine	9	--------	--------	--------	--------
Cow Springs	19	--------	--------	--------	--------
Goldtooth	13	--------	--------	--------	--------
Oljeto	16	--------	--------	--------	--------
Red Lake	32	--------	--------	--------	--------
Dinnebito Dam	40	--------	--------	--------	--------
Brad Springs	25	--------	--------	--------	--------
Jones Ranch	34	27	24	--------	--------
Springstead	60	--------	--------	--------	--------
Sanostee	0	26	20	--------	--------
Other Schools:					
Church Rock	--------	--------	--------	105	--------
Navajo Compressor Station	--------	--------	--------	32	--------
Sawmill	--------	--------	--------	73	--------
Mexican Springs	--------	--------	--------	59	--------
(Leupp)	73	74	64	33	--------
Mission Schools	1,360	1,219	1,175	1,168	--------
Public Schools	3,900	2,847	2,393	1,846	--------
State, Deaf & Blind	33	30	26	18	--------
Colleges & Advanced[4]	138	84	77	(5)	--------
TOTAL ENROLLMENT	22,304	16,110	14,765	13,480	13,480[3]

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[1] Based on data available as of January 6, 1955.

[2] Schools were classed as Reservation Boarding, Reservation Community and Day, on the basis of their classification as of January 6, 1955. The figures showing total enrollment in each such class are not comparable since, in some instances, schools formerly classed as Day Schools have since been converted to a boarding school basis, and schools that were formerly classed as Reservation Community are currently classed as Reservation Boarding.

[3] Includes some small schools not listed.

[4] Less Haskell reported elsewhere.

[5] Number was not computed and included in total enrollment for this year.

RESOURCES

AREA AND PRODUCTIVITY OF VEGETATIVE TYPES OF THE NAVAJO AREA[1]

VEGETATIVE TYPE	SURFACE AREA		FORAGE PRODUCED		CARRYING CAPACITY	
	Acres	Percent of Total	Forage Acres	Percent of Total	Sheep Units Yearlong	Percent of Total
rassland	4,455,572	29.4	636,855	46.6	250,742	46.6
eadow	3,748	0.1	460	0.1	184	0.1
eeds	17,892	0.2	725	0.1	290	0.1
agebrush	779,142	5.2	136,865	10.2	54,746	10.2
rowse	4,263,552	28.2	293,973	21.8	117,589	21.8
oniferous timber	543,466	3.6	53,793	4.0	21,517	4.0
accessible	1,088,695	7.2	0	0	0	0
arren	665,480	4.4	0	0	0	0
oodland	3,194,704	21.1	288,658	17.1	91,463	17.1
spen	1,282	0.1	45	0.1	18	0.1
gricultural	73,630	0.5	0	0	0	0
TOTAL	15,087,163	100.0	1,341,374	100.0	536,549	100.0

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able XIV—General Statement of Conditions in the Navajo Area—Mimeo., Window Rock, 1941.

PRECIPITATION RECORD—NAVAJO RESERVATION

YEAR	ARIZONA				NEW MEXICO	
	Ft. Defiance	Kayenta	Leupp	Tuba City	Shiprock	Crownpoint
1953	7.97	6.98	5.90	5.35	6.67	6.04
1952	12.99	11.77	7.25	13.25	6.15	11.23
1951	9.92	8.37	8.18	5.91	4.53[2]	7.55
1950	6.16	4.53	3.34	6.34	2.10	........[1]
1949	13.22	11.41	7.34	7.80	6.92	7:30
1948	14.59	9.34[2]	5.24	4.29	8.47	10.26
1947	12.46	9.34	........[3]	7.82	8.06	12.34
1946	11.89	........[3]	........[3]	6.90	5.41	10.61
1945	15.77	........[3]	........[1]	3.95	5.04	8.54
1944	12.99	........[3]	........[1]	5.08	6.00[2]	10.27
1943	9.72	3.63	........[1]	6.71	........[1]	8.76
1942	8.90	........[3]	6.48	5.64	........[1]	........[1]
1941	23.73	........[1]	10.56	15.20	15.85	........[1]
1940	15.30	........[3]	10.40[2]	8.90[2]	8.85	11.03
1939	10.27	........[3]	4.49	4.84	6.97[2]	7.48
1938	10.61	8.80	2.52	........[3]	7.55[2]	11.40
1937	12.96	8.56	6.66	6.09	6.52	12.47
1936	13.08	5.76	4.54	7.08	5.76	12.28
1935	10.56	8.37	7.12	6.21	7.63[2]	11.60
1934	6.84	5.76	........[3]	6.75	4.24	7.63
1933	9.34	8.38	........[1]	5.47	4.77	10.21
1932	9.95	10.02	........[1]	5.27	5.20	12.86
1931	15.18	10.24	........[1]	6.79	9.11	15.55
1930	11.62	9.22	........[1]	8.11	6.53	7.28
1929	........[3]	8.22	........[1]	........[3]	10.26	13.49
1928	........[1]	7.57	........[1]	5.07	8.69	11.41
1927	........[1]	11.05	........[1]	13.10[2]	10.55	17.26
1926	........[1]	6.36	........[3]	10.23	11.83	9.71
1925	........[1]	10.59	7.87[2]	6.44		11.18
1924	........[1]	5.70	........[3]	1.58		14.53
1923	........[1]	10.51	........[1]	........[3]		15.86
1922	........[1]	8.29	........[3]	4.50		7.68
1921	........[1]	10.91	8.36	7.11		11.66
1920	........[1]	4.63[2]	7.87	7.20		8.25
1919	........[1]	........[3]	6.66	........[3]		16.99
1918	........[1]	........[3]	6.27	........[1]		5.00
1917	........[1]	........[3]	5.94	6.44		5.03
1916	........[1]	10.70	4.09	8.68		11.59
1915	........[1]	........[3]	9.09	7.83		8.57

YEAR	ARIZONA				NEW MEXICO	
	Ft. Defiance	Kayenta	Leupp	Tuba City	Shiprock	Crownpoint
1914	........[1]		........[3]	11.19		12.85
1913	19.37[2]			6.59		
1912	7.90[2]			6.59		
1911	18.28[2]			9.13		
1910	10.51[2]			5.60		
1909	14.59[2]			7.02		
1908	12.15[2]			7.90[2]		
1907	13.67[2]			........[3]		
1906	11.83[2]			12.57		
1905	20.65			........[3]		
1940	11.14			........[3]		
1903	18.51			........[3]		
1902	12.87			3.50[2]		
1901	13.33			3.00[2]		
1900	6.52			........[3]		
1899	12.63			2.63		
1898	11.78			........[3]		
1897	........[3]			........[3]		
[4]						
1860	11.70					
1859	11.31					
1858	11.97					
1857	13.06					
1856	11.63					
1855	17.08					
1854	22.44					
1853	13.87					
1852	........[3]					
TOTAL	456.25	235.01	146.17	313.65	189.66	393.75
NO. YEARS	35	28	22	45	26	37
AVERAGE	13.04	8.39	6.64	6.97	7.29	10.64

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[1] No record.

[2] Partially estimated.

[3] Record incomplete.

[4] No records available relative to period 1860-1897.

[5] Fort Defiance discontinued, and record taken at Window Rock.

RANGE RESOURCES
(Navajo Area)

TYPE NO.	RANGE TYPE	ACREAGE	CARRYING CAPACIT
1	Grassland	4,228,199	238,770
2	Mountain meadow	3,748	136
3	Weeds (perennial)	12,671	286
4	Sagebrush	806,778	55,468
5	Browse	4,040,557	108,409
6	Conifers (timber species)	546,356	22,103
7	Inaccessible	716,128	None
8	Barren	925,751	None
9	Woodland (pinyon-juniper)	3,102,645	85,732
10	Aspen	1,282	18
	Cultivated (includes 18,420 acres of irrigated land)	36,720*	None
	TOTAL	14,420,835	512,922

*1952

NAVAJO RESERVATION
District Summary by States and Counties
(Surface Area in Acres)

District Number	ARIZONA			NEW MEXICO		UTAH	TOTAL
	Coconino	Apache	Navajo	San Juan	McKinley	San Juan	Surface Ar Acres
1	1026,584		8,956				1,035,54
2	361,106		434,250			299,620	1,094,97
3	1,756,235		3,101				1,759,33
4	6,604	144,284	750,279				901,16
5	630,950		181,250				812,20
6[1]	55,599		443,649				499,24
7		79,738	911,911				991,64
8		348,709	643,530			458,357	1,450,59
9		607,373		16,684		372,219	996,27
10		794,484					794,48
11		417,235		17,004			434,23
12		205,503		1,009,664		119,787	1,334,95
13				396,100			396,10
14				161,834	475,267		637,10
15				60,800	123,762		184,56
17		990,474	171,414				1,161,88
18		474,972		49,887	79,052		603,91
Total	3,837,078	4,062,772	3,548,340	1,711,973	678,081	1,249,983	15,088,22

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[1] District 6 is Hopi.

[2] The figures given in the table above are based on old estimates, and the total acreages currently used Districts 3-7 inclusive are at variance with the totals indicated above. However, no recent data is availab relating to the several Districts in terms of acreages lying within the various counties.

STATUS OF LAND UNDER NAVAJO JURISDICTION INSIDE RESERVATION BY STATE AND COUNTY IN ACRES

(Includes Hopi)

State & County	Tribal Land	Trust Allotment	Private Land	Total
Arizona				
Apache	4,022,936	31,325	8,511	4,062,772
Navajo	3,353,000	45,880	149,460	3,548,340
Coconino	3,829,160	2,980	4,938	3,837,078
TOTAL	11,205,096	80,185	162,909	11,488,190
New Mexico				
McKinley	678,081	0	0	678,081
San Juan	1,711,973	0	0	1,711,973
TOTAL	2,390,054	0	0	2,390,054
Utah				
San Juan	1,184,073	9,600	56,310	1,249,983
GRAND TOTAL	14,779,223	89,785	219,219	15,088,227

STATUS OF LAND UNDER NAVAJO JURISDICTION OUTSIDE RESERVATION BY STATE & COUNTY IN ACRES

State & County	Tribal Land	Trust Allotment	Resettlement Land	Administr. Reserves	Exchange Land	Total
ona						
Apache		5,320				5,320
Navajo		2,960				2,960
Coconino		2,080				2,080
TOTAL		10,360				10,360
New Mexico						
McKinley	177,782	357,920	70,267	2,570	181,944	790,483
San Juan	6,400	143,040		1,590	31,680	182,710
Sandoval		57,120		40		57,160
Valencia	3,200[1]	40,000[1]			12,800[1]	56,000[1]
Rio Arriba		800				800
TOTAL	187,382	598,880	70,267	4,200	226,424	1,087,153[2]
Utah						
San Juan		1,120				1,120
GRAND TOTAL	187,382	610,360	70,267	4,200	226,424	1,088,273

[1] Ramah.

[2] Does not include approximately 600,000 acres of Public Domain administered by BLM and used by Navajos.

LIVESTOCK CENSUS[1]

(Includes Navajo and Hopi except as indicated)

Year	Mature Sheep	Mature Goats	Mature Cattle	Mature Horses	Total Mature Sheep Units	Tot Lam
1928[3]	1,375,000		150,000	337,500	1,862,500	
1930	574,821	186,768	100,000	250,000	1,111,589	349,2
1931	631,427	196,945	100,000	250,000	1,178,372	345,2
1932	575,913	173,585	84,000	220,000	1,053,498	257,1
1933	544,726	164,999	80,000	210,000	999,725	277,7
1934	502,619	147,427	76,000	200,000	926,046	289,1
1935	548,579	92,222	76,080	201,350	918,231	252,5
1936	459,285	73,600	50,228	128,035	711,148	281,3
1937	391,103	57,819	72,212	199,175	720,309	295,8
1940[2]	356,791	57,113	52,180	155,500	621,584	302,6
1941	433,733	72,018				
1951[2]	285,379	50,535	44,216	162,350	544,635	177,5

[1] From old records on file at the Navajo Agency—many figures represent estimates.

[5] Excludes Hopi.

[3] Includes lambs and kids and other immature stock, as well as mature goats.

LIVESTOCK INCOME
NAVAJO—COMPARATIVE

	1951	1952	1953	1946
Number of families having agricultural income	9,078	9,013	9,345	11,1
Total agricultural income	$6,631,552	$4,719,124	$3,505,502	$3,291,9
Gross income—Livestock	$6,011,511	$3,541,728	$2,954,620	$1,113,3
Sheep:				
Number of ewes	258,403	252,395	259,249	352,6
Number of ewes sold	14,310	9,611	7,948	19,1
Number of lambs sold	84,328	78,313	73,992	133,3
Income—Sale of lambs	$1,391,245	$ 967,886	$ 651,689	$ 778,8
Pounds of wool	1,937,586	1,958,170	2,061,223	2,133,3
Total value of wool	$1,457,955	$ 748,827	$ 746,693	$ 640,0
Total income—Sheep and wool	$4,575,793	$2,599,245	$2,305,674	$1,418,9
Cattle:				
Number of cows	8,284	7,982	8,793	9,7
Number of cattle sold	4,881	3,382	2,481	3,1
Number of calves sold	1,691	613	828	1,1
Total income—Cattle	$ 733,470	$ 454,292	$ 216,239	$ 194,1

QUANTITY & VALUE OF WOOL & MOHAIR
NAVAJO—COMPARATIVE
1935—1953

Year	Pounds Wool	Value	Pounds Mohair	Value
1935	2,082,318	$		$
1936	2,187,641			
1937	2,111,542			
1938	2,139,350			
1939	1,935,988			
1940	2,297,868	498,045	148,802	38,133
1941	3,042,508	871,180	117,205	39,516
1942	2,616,515	784,654	137,346	54,938
1943	2,477,574	743,262	106,375	42,550
1944	2,600,000	690,000	102,000	40,800
1945	2,300,000	690,000	90,000	36,000
1946	2,133,387	640,016	83,489	33,396
1947	2,344,781	703,434	214,688	64,406
1948	2,139,336	678,979	77,890	19,984
1949	2,461,745	782,652	185,864	46,430
1950	2,367,973	919,543	154,330	54,560
1951	1,937,586	1,457,955	126,859	92,020
1952	1,958,170	748,827	149,900	58,643
1953	2,061,223	746,693	159,907	68,917

AVERAGE INCOME PER SHEEP UNIT

ANNUAL		10-YEAR AVERAGE	
Year	Income	10-Year Average, 1941-1950 by Classes of Livestock	
		Class of Livestock	Average Income Per Sheep Unit
1941	$4.49		$
1942	4.43	Cattle	9.45
1943	3.01	Sheep	7.77
1944	3.76	Goats	4.88
1945	4.24	Horses	0.37
1946	4.77		
1947	7.19		
1948	7.80		
1949	8.13		
1950	9.31		

AGRICULTURAL INCOME
Navajo

Year	Stock Raising	Farm Crops	Total
1953	$2,954,680	$ 550,822	$3,505,502
1952	3,541,728	1,177,396	4,719,124
1951	6,011,511	620,041	6,631,552
1950	5,572,037	543,656	6,115,693
1949	4,915,738	1,057,059	5,972,797
1948	4,652,259	1,099,825	5,752,084
1947	4,205,548	954,007	5,159,555
1946	2,907,922	952,045	3,859,967
1945	2,702,615	800,084	3,502,699
1944	2,676,198	581,764	3,257,962
1943	2,095,614	765,440	2,861,054
1942	3,189,469	899,845	4,089,314
1941	3,239,659	409,785	3,649,444
1940	1,762,329	470,294	2,233,623

AGRICULTURAL INCOME
(Farm Crops and Livestock)
Navajo

Year	Total Value of Sales	Value of Products Cons. in Home	Total Gross Income
1953	$2,022,944	$1,482,508	$3,505,502
1952	2,828,889	1,890,235	4,719,124
1951	4,354,805	1,890,235	4,719,124
1951	4,354,805	2,276,747	6,631,552
1950	4,116,720	1,998,973	6,115,693
1949	3,655,926	2,316,871	5,972,797
1948	3,343,090	2,408,994	5,752,084
1947	3,206,464	1,953,091	5,159,555
1946	2,382,711	1,477,256	3,291,967
1945	2,311,050	1,191,649	3,502,699
1944	2,180,798	1,077,164	3,257,962
1943	1,853,156	1,007,898	2,861,054
1942	2,462,972	1,626,243	4,089,314
1941	2,509,082	1,140,362	3,649,444
1940	1,530,003	702,620	2,232,623

NAVAJO LIVESTOCK INDUSTRY
ACTUAL & PERMITTED RESERVATION STOCK—1954

strict No.	Number of Permits	Number of Families, est.	Sheep Units Total Permitted	Sheep Units Total Stocking	Actual Stocking vs. Permitted No.
1	336	410	34,039	31,524	— 2,515
2	276	320	20,219	19,749	— 470
3	487	659	49,233	35,908	—13,325
4	441	767	30,031	40,482	+10,451
5	252	343	28,407	18,938	— 9,469
7	660	791	54,824	40,732	—14,092
8	423	515	30,506	30,148	— 358
9	410	525	25,079	26,739	+ 1,660
0	570	701	34,133	32,472	— 1,661
1	347	421	17,037	14,428	— 2,609
2	1,041	1,817	56,956	51,257	— 5,699
3	197	412	16,331	10,049	— 6,282
4	619	685	32,427	38,294	+ 5,867
5 (on)[1]	110	(635)[3]	9,363	7,410	— 1,953
6[2]	....	(1,670)[2]	....	....	....
7	852	1,184	70,689	55,578	—15,111
8	672	708	43,267	30,687	—12,580
lopi (6)	(514)[3]	(720)[3]	....	....	....
TOTAL	7,693	10,258	552,541	484,395	—68,146

cludes only that part of District 15 on the Reservation.
strict 16 is outside the Reservation.
tside Reservation. Not included in totals.

SUMMARY LIVESTOCK CENSUS—MATURE STOCK ONLY—1930-40[1]

ss ck	1930	1931	1932	1933	1934	1935	1936	1937	1940	1941
p	574,821	631,427	575,913	544,726	502,619	548,579	459,285	391,133	356,791	433,733
ts	186,768	196,945	173,585	164,999	147,427	92,222	73,600	57,819	57,113	72,018
le	25,000	25,000	21,000	20,000	19,000	19,020	12,557	18,053	13,045	10,960
es	50,000	50,000	44,000	42,000	40,000	40,270	25,607	39,835	31,100	34,345
	1,111,589	1,178,372	1,053,498	999,725	926,046	918,231	711,148	720,309	621,584	551,056

n old BIA records.

TOTAL MATURE SHEEP UNITS—ALL NAVAJO-HOPI JURISDICTION—1928-1935

15	1934	1933	1932	1931	1930	1928
18,31	926,046	999,725	1,053,498	1,178,372	1,111,589	1,862,500

NAVAJO LIVESTOCK COUNT
MATURE SHEEP UNITS BY LAND MANAGEMENT DISTRICTS
1936-1954

District Number	Carrying Capacity	STOCKING—MATURE SHEEP UNITS Y. L.					
		1954	1953	1952	1951	1950	1949
1	34,221	31,524	30,275	27,057	25,676	26,056	26,94
2	20,506	19,749	18,866	18,007	18,228	16,636	16,21
3	47,288	35,908	36,332	34,131	36,901	34,830	37,94
4	23,372	40,482	36,367	35,464	33,000	33,051	30,33
5	26,351	18,938	18,150	17,691	18,568	19,277	19,88
7	49,727	40,732	37,641	37,061	36,828	38,015	38,48
8	29,978	30,148	28,752	27,182	26,859	26,753	24,08
9	21,018	26,739	23,922	22,912	24,916	25,969	23,98
10	33,717	32,472	28,159	27,593	27,407	29,642	29,32
11	17,261	14,428	12,896	12,348	12,054	13,759	13,50
12	52,385	51,257	48,982	47,166	50,706	52,856	51,74
13	16,703	10,049	9,981	9,796	10,361	11,993	13,80
14	25,321	38,294	33,402	29,186	30,990	31,457	27,88
15 (on)	7,171	7,410	6,198	6,198	7,097	8,716	8,32
17	74,895	55,578	54,570	55,114	59,743	58,746	64,51
18	33,008	30,687	30,345	29,965	26,886	32,680	30,35
Total	512,922	484,395	454,838	436,871	446,220	460,526	457,34

District Number	Carrying Capacity	STOCKING—MATURE SHEEP UNITS Y. L.					
		1943	1942	1941	1940	1937	193
1	34,221	30,946	37,463	46,231	50,021	53,825	42,12
2	20,506	19,620	23,006	23,941	25,679	28,221	26,23
3	47,288	44,543	49,011	52,273	51,912	56,514	44,7
4	23,372	41,340	40,390	42,618	47,258	49,606	42,7
5	26,351	24,676	26,596	23,463	23,196	29,808	17,1
7	49,727	42,783	40,169	34,582	39,894	56,425	51,4
8	29,978	30,363	34,251	33,986	33,162	41,709	25,5
9	21,018	34,866	37,034	35,835	45,422	39,521	28,6
10	33,717	32,911	35,519	35,474	37,767	43,539	40,7
11	17,261	15,952	15,119	14,456	14,708	20,991	19,9
12	52,385	63,763	73,780	70,432	69,798	66,764	59,4
13	16,703	16,591	19,033	17,992	21,294	19,403	18,9
14	25,321	38,517	40,883	45,921	49,687	52,808[1]	40,3
15 (on)	7,171	8,680	11,779	9,739	11,670	15,225[1]	30,5
17	74,895	74,126	69,519	66,619	63,499	87,808[1]	56,6
18	33,008	32,590	30,017	31,320	36,617	52,121[1]	70,5
Total	512,922	552,267	583,569	584,882	621,584	707,879	656,7

[1] Include seasonal use by livestock from Taylor Grazing District 7.

NAVAJO LIVESTOCK INDUSTRY
RESERVATION GRAZING RESOURCES—RANGE USE—1954

strict No.	Surface Area Acres	Surface Area Square Miles	Carrying Capacity, S.U. Y. L.	Total Range Use, S. U. Y. L.	Range Use vs. Carrying Cap.	Percent Over or Under Carrying Cap.
1	1,035,540	1,618	34,221	31,549	— 2,672	— 8%
2	1,094,976	1,711	20,506	19,749	— 757	— 4%
3	1,743,397	2,724	47,288	35,908	—11,380	—24%
4	878,133	1,372	23,372	40,482	+17,110	+73%
5	785,788	1,228	26,351	18,938	— 7,413	—28%
7	925,088	1,449	49,727	40,732	— 8,995	—18%
8	1,450,596	2,268	29,978	30,148	+ 170	+ 1%
9	996,276	1,557	21,108	26,739	+ 5,721	+27%
0	794,484	1,241	33,717	32,472	— 1,245	— 4%
1	434,239	678	17,261	14,428	— 2,833	—16%
2	1,334,954	2,086	52,385	51,257	— 1,128	— 2%
3	396,100	619	16,703	10,049	— 6,654	—40%
4	637,101	995	25,321	37,169	+11,848	+47%
5 (on)[1]	184,562	288	7,171	6,267	— 904	—13%
6 & 19[2]	1,051,000	1,063	92,395	--------	--------	--------
7	1,161,888	1,815	74,895	58,605	—16,290	—22%
3	603,911	944	33,008	26,361	— 6,647	—20%
opi (6)	631,194					
TOTAL	16,139,227	23,656	512,922	480,853	—32,069	— 6%

ludes only that part of District 15 on the Reservation.
trict 16 is outside the Reservation, and the area figures include allotments, Tribal purchases, RR exchange
id in Districts 15, 16, 19, all of which lie outside the exterior boundaries of the Navajo Reservation.

NAVAJO LIVESTOCK INDUSTRY
LIVESTOCK BY CLASSES—1954

rict iber	No. Mature Sheep	No. Lambs	No. Mature Goats	Number Kids	No. Mature Cattle	Number Calves	No. Mature Horses	Number Colts
	18,753	12,550	2,465	1,805	629	407	1,407	116
	10,915	8,449	3,024	2,395	330	147	850	42
	19,895	13,587	3,008	2,170	1,045	559	1,589	192
	20,165	13,605	5,346	3,932	1,084	425	1,890	193
	8,851	5,625	1,230	890	838	477	1,101	57
	21,148	14,982	3,872	2,685	728	414	2,489	239
	15,231	9,115	4,172	2,607	690	436	1,575	98
	13,388	9,055	4,202	2,925	396	221	1,497	216
	16,536	11,036	3,113	2,468	687	348	1,797	167
	6,416	4,885	1,795	1,708	403	188	875	111
	24,132	16,544	6,358	4,939	983	495	3,289	163
	6,323	4,708	817	605	146	74	464	47
	17,320	10,849	4,451	3,128	1,682	937	1,959	97
(on)[1]	3,458	2,451	799	639	312	139	381	44
	34,341	24,695	4,884	3,367	417	182	2,869	272
	15,389	11,257	3,142	2,414	779	300	1,757	164
L	252,261	173,393	52,678	38,677	11,149	5,749	25,789	2,218

des only that part of District 15 on the Reservation.

NAVAJO LIVESTOCK—OUTSIDE RESERVATION
NEW MEXICO GRAZING DISTRICT NO. 7 (DISTRICTS 15, 16, 19)[1]

District & Year	Number Permits	Carrying Capacity	T.Stock M.S.U.	Mature Sheep	Lambs	Mature Goats	Kids	Mature Cattle	Calves	Hor
1947										
District 15	....	35,818								
District 16	....	31,285								
District 19	....	25,292								
TOTAL	1,344	92,395	144,446	102,407[2]	....	....	....	1,136	....	7,4
1950										
District 15	443	....	53,344	28,601	20,683	4,459	2,292	1,326	618	2,9
District 16	597	....	47,242	22,204	16,449	5,560	4,194	1,537	712	2,6
District 19	372	....	60,227	36,814	28,773	4,917	3,723	1,789	854	2,2
TOTAL	1,412	....	160,813	87,619	65,905	14,936	10,846	4,652	2,184	7,9
1951										
District 15	441	....	37,463	20,298	12,585	4,027	2,537	662	305	2,0
District 16	544	....	23,874	9,727	6,031	4,211	2,652	549	253	1,5
District 19	379	....	33,490	20,735	12,856	3,278	2,065	638	293	1,3
TOTAL	1,364	....	94,827	50,760	31,422	11,516	7,254	1,849	851	5,0
1952										
District 15	474	....	41,907	21,474	15,892	4,278	3,251	381	152	2,9
District 16	1,098	....	17,956	11,481	8,496	1,841	1,399	111	44	
District 19	281	....	22,409	13,238	9,796	3,178	2,415	37	15	1,
TOTAL	1,853	....	82,272	46,194	34,184	9,297	7,065	529	211	4,9
1953										
District 15	435	....	27,768	14,030	10,663	3,558	2,669	245	137	1,
District 16	547	....	21,096	9,382	7,130	4,043	3,032	219	123	1,
District 19	345	....	22,000	13,253	10,073	3,377	2,533	5	3	1,
TOTAL	1,327	....	70,864	36,665	27,866	10,978	8,234	469	263	4,

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[1] BLM administers Public Domain and R.R. exchange lands. Area also includes tribally purchased land, allo land, etc.

[2] Includes mature goats.

NAVAJO LIVESTOCK INDUSTRY
RESERVATION DISTRICTS BY STATES[1]

	ARIZONA			NEW MEXICO			UTAH		
istrict umber	Area in Acres	Carrying Capacity	Total Stock S.U.Y.L.	Area in Acres	Carrying Capacity	Total Stock S.U.Y.L.	Area in Acres	Carrying Capacity	Total Stock S.U.Y.L.
1	1,035,540	34,221	31,524						
2	795,356	18,048	17,559				299,620	2,458	2,190
3	1,759,336	47,988	35,908						
4	901,167	24,210	40,482						
5	812,200	27,368	18,938						
[2]	499,248	17,863							
	991,649	52,936	40,732						
	992,239	22,847	24,075				458,357	7,131	6,073
	607,373	14,959	18,668	16,684	753	974	372,219	5,326	7,097
	794,484	33,717	32,472						
	417,235	16,541	14,428	17,004	720				
	205,503	6,300	7,271	1,009,664	44,126	35,713	119,787	1,959	8,273
				396,100	16,703	10,049			
				637,101	25,321	38,294			
				184,562	7,171	7,410			
	1,161,888	74,895	55,578						
	474,972	26,973	23,138	128,939	6,035	7,549			
al	11,448,190	418,866	360,773	2,390,054	100,809	99,989	1,249,983	16,874	23,633
al king	--------	--------	74%	--------	--------	21%	--------	--------	5%

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m an old table of statistics. Acreages of Districts vary from present figures, but proportionate portions of ervation in the several States are approximately accurate.

trict 6—Hopi.

THE NAVAJO TIMBER RESOURCE
(1952)

A. MERCHANTABLE VIRGIN TIMBER	ACREAGE	VOLUME FT. B.M.
Ponderosa Pine		2,041,311,250
Douglas Fir		42,112,751
Spruce		3,327,548
White Fir		611,301
TOTAL	458,457	2,087,362,850
Average vol./acre (Ponderosa)		4,453 ft. B
Average vol./acre (all species)		4,533 ft. B

B. UNMERCHANTABLE (INACCESSIBLE)	ACREAGE	VOLUME FT. B.M.
Navajo Mountain:		
Ponderosa Pine	10,454	25 Million
Spruce	4,500	12 Million
Defiance Plateau & Chuska Range:		
All species	284,200	60 Million
TOTAL	299,154	97 Million

C. CUT-OVER	ACREAGE	RESIDUAL VOL. FT. B
Ponderosa Pine	37,231	100,523,700
Cut to Dec. 31, 1952		139,105,810

ACRES CROPPED & COMPARATIVE VALUE PER ACRE OF IRRIGATED & DRY FARMLAND

Year	Irrigated Land Acres	Value Per Acre	Dry Farmland Acres	Value Per Acre
1941	19,006	$16.85	31,517	$11.42
1942	17,833	16.65	29,249	18.60
1943	16,029	27.15	26,733	9.05
1944	16,734	30.62	19,676	14.80
1945	17,164	37.69	16,344	12.70
1946	15,141	40.07	16,926	19.00
1947	15,870	51.53	15,937	18.00
1948	17,472	54.66	15,086	19.53
1949	18,160	45.00	15,651	24.82
1950	12,076	45.93	6,884	4.65

INCOME FROM IRRIGATED FARMS—NAVAJO

Year	No. of Families on Farm	No. People Benefited by Farms	Crop Value
1950	2,280	11,540	$574,600
1951	1,548	8,000	644,400
1952	2,426	12,000	912,000
1953	1,715	8,800	625,400
1954	1,645	8,700	698,200

1952 indicates that a fair average income per family can be made on the irrigated tracts when water is available. The other years reflect the drought cycle to which the Navajo reservation has been subject.

INCREASED ACRE FEET OF STORAGE—NAVAJO

Storage Site	Prior to 1951	Completed Under Long Range Program	Increase A.F.
Choiska	1500 A.F.	3000 A.F.	1500 A.F.
Long Lake	None	5516 A.F.	5516 A.F.
Whiskey Lake	None	2015 A.F.	2015 A.F.
Red Lake	3500 A.F.	11,000 A.F.	7500 A.F.
Round Rock	300 A.F.	1100 A.F.	800 A.F.
		Total Increase	12,331 A.F.

These 12,331 acre feet of water are used to bring a more stable irrigation pattern to the projects concerned and to furnish some supplemental water to acreage dependent on intermittent stream flow.

NEW LANDS SUBJUGATED AND PLACED UNDER IRRIGATION SINCE INCEPTION OF LONG RANGE PROGRAM—NAVAJO

Project	Acreage	No. New Farms	No. People Benefited by Farms
Fruitland	400 Ac.	20	100
Hogback			
Pump Unit A	250 Ac.	11	55
Pump Unit B	725 Ac.	26	130
Many Farms	274 Ac.	13	65
Ganado	485 Ac.	16	80
Red Lake	1000 Ac.	31	155
Total	3,134 Ac.	117	585

PRESENT AND ULTIMATE ACREAGES OF IRRIGATED FARMLAND DEVELOPED OR TO BE DEVELOPED

Navajo-Hopi Reservations (1955)

District	Present Acreage	Ultimate Acreage	Present Acres Dry Farm Land
1	276	326	719
2	253	253	931
3	1,328	1,328	606
4	233	300	2,725
5	100	175	664
6 (Hopi)	61	141	7,069
7	67	67	2,184
8	1,083	1,300	315
9	1,733	2,990	434
10	3,616	7,020	2,007
11	3,203	3,622	636
12	12,248	21,450	924
13	3,275	3,675	--------
14	1,670	2,840	2,093
15[2]	82	120	3,737[3]
16[2]	60	100	4,932
17	2,493	2,543	2,912
18	2,543	3,680	3,331
	1,800[1]	1,800[1]	
TOTAL	36,124	53,730	36,219

[1] Farms being irrigated in District 18 which are not under constructed works.

[2] Outside the Navajo Reservation.

[3] Includes 540 acres outside the Navajo Reservation in District 19.

NAVAJO OFF-RESERVATION EMPLOYMENT AND INCOME, ESTIMATED, 1950-51[1]

Industry	Estimated Income	Number of Placements	Industry	Estimated Income	Placem Numbe
Railroads	$ 5,500,000	5,212	Defense installations	295,000	3
Agriculture	2,500,000	6,655	Mining	205,000	3
Lumbering—forestry	900,000	615	Miscellaneous	1,150,000	7
Construction—roads	45,000	460	Railroad retirement	1,250,000	-
Pipeline and oil	125,000	303	TOTAL	$11,970,000	14,6

[1] Navajo-Hopi Placement Service Year Book, 1950-51.

ESTIMATED INCOME
NAVAJO-HOPI OFF-RESERVATION EMPLOYMENT
Jan. 1-Oct. 31, 1951

Industry	Placements	Estimated Income	Industry	Placements	Estimated Income
Agriculture	6,601	$ 3,015,450	Wholesale and Retail Trades	40	24,400
Forestry	1,582	506,240	Service Occupations	133	42,820
Mining	53	102,250	Gv't Defense Projects	375	584,400
Contract Construction	297	475,600	Self-Placed (estimate)	750	500,000
Manufacturing	11	59,200	Federal employ. on Res.	453	915,840
Railroads	11,468	6,000,000			
Railroad Retirement	--------	1,400,000			
Other Public Utilities	32	54,400	TOTAL	21,795	$13,680,600

ESTIMATED WAGE INCOME
NAVAJO—CALENDAR YEAR 1952

Industry	Estimated Income	Industry	Estimated Income
isonal Agriculture	$ 3,025,000	Public Util. Service Occupations, etc.	122,000
estry	280,000	Gov't Defense Projects	600,000
ing	240,000	Self Placed (est.)	250,000
ntract Construction	275,000	Window Rock Area payroll	1,750,000
nufacturing	70,000	Tribal payroll	825,885
lroads	5,180,000		
road Unemployment ompensation	1,450,000	TOTAL	$14,094,885

NAVAJO LABOR DEMAND
1952[1]

tate and Activity	Number of Workers Employed	State and Activity	Number of Workers Employed
A ona: Total	2,900	Idaho: Total	1,450
egetables	1,000	Sugar beets	1,450
otton	1,300	Utah: Total	1,800
dustry	300	Sugar beets, tomatoes	1,800
restry	300		
N Mexico: Total	2,800	Railroads: Total	13,500
egetables	2,500	A.T.S.F.	6,500
dustry	300	U.P.	6,000
C rado: Total	1,500	Denver R.G.	1,000
gar beets	900		
her farm work	100		
restry	500	TOTAL	23,950

A ona State Employment Service report, "Indian Workers in Arizona," 1951.

EMPLOYMENT OF INDIANS IN ARIZONA
ALL TRIBES & NAVAJO COMPARED
Approximately Nov. 1951-June 1952[1]

INDUSTRY	ALL INDIAN		NAVAJO		Employme
	% of Total	Number	% of Total	Number	Total
Seasonal Agriculture	9%	4,400	14%	600	50,000
Mining	3%	430	5%	20	12,700
Sawmills	11%	180	67%	120	1,600
Railroad	9%	600	75%	450	6,800

[1] Information provided by Arizona State Employment Service in a letter of July 21, 1952.

INCOME—RESERVATION RESOURCES
Period July 1, 1953-June 30, 1954

OIL & GAS LEASES

	Tribal Land	Allotted La
Bonuses from Sale of Oil and Gas Leases	$ 4,392,536.24	$191,287.
Annual Rentals from Existing Leases	877,767.00	81,496.
Royalties on Production of Oil	39,898.81	--------
Royalties on Production of Gas	------------	5,788.
Total for Fiscal Year 1954	$ 5,310,202.05	$278,572.
Total Income since first production (1923-1954)	$16,895,250.81	--------

MINING LEASES

	Tribal Land	Allotted La
Production Royalties (vanadium-uranium)	$ 644,166.94	$ 42,459.
Rentals on Vanadium-Uranium Leases	12,670.19	2,885.
Production Royalties Indian Coal Mines	3,423.12	--------
Sale of Sand and Gravel	3,177.38	1,126.
Total for Fiscal Year 1954	$ 663,437.63	$ 46,470.
Total Income (Vanadium-Uranium) Leases since first production (1942-1954)	$ 1,744,807.24	$ 79,197.

MISCELLANEOUS INCOME

	Tribal Land	Allotted La
Millsite Leases	$ 1,622.99	$ None
Housing Site leases	100.00	--------
Rights-of-way Payments	91,383.88	14,607.
	$ 93,106.87	$ 14,607.
Grand Total—Fiscal Year 1954	$ 6,066,746.55	$339,650

AGENTS AND SUPERINTENDENTS IN CHARGE OF THE NAVAJO AGENCY, 1851-1955[1]

		TERM OF SERVICE	
Name	Title	Began	Ended
. H. Weightman,	Agent	3-12-51	--------
M. Baird,	Agent	7-22-52	--------
. S. Dodge,	Agent (killed by Apaches)	4-11-53	11-15-56
/. R. Harley,	Agent	6-25-57	--------
. J. Cowart,	Agent	9-11-58	--------
F. Kendrick,	Agent	7- 1-59	--------
hn Ward,	Agent	4-30-61	--------
eodore H. Dodd,	Agent	5-24-65	--------
C. French,	Agent	7-16-68	--------
T. Bennett,	Agent	7- 1-69	--------
mes H. Miller,	Agent	11-22-70	--------
omas Varker Keam,	Agent	6- 4-72	--------
illiam F. M. Arny,	Agent	6-18-73	--------
exander G. Irvine,	Agent	9-23-75	--------
hn E. Pyle,	Agent	4- 1-78	4-26-79
alen Eastman,	Agent	4-27-79	6-30-80
T. Bennett,	Acting Agent	7- 1-80	6-30-81
len Eastman,	Agent	7- 1-81	12-31-82
nnis M. Riordan,	Agent	1- 1-83	6-30-84
n H. Bowman,	Agent	7- 1-84	3-31-86
S. Patterson,	Agent	4- 1-86	1-16-89
arles E. Vandever,	Agent	1-17-89	12-18-90
vid L. Shipley,	Agent	12-19-90	3-31-93
vard H. Plummer,	Acting Agent	4- 1-93	11-14-94
C nstant Williams,	Agent	11-15-94	10-14-98
orge W. Hayzlett,	Agent	10-15-98	9-30-03
R ben Perry,	Superintendent	10- 1-03	10-16-06
S B. Daire,	Superintendent in Charge	10-17-06	11- 8-06
V liam H. Harrison,	Superintendent	11- 9-06	9-30-08
P r Paquette,	Superintendent	10- 1-08	1-24-19
S . M. Young,	Superintendent in Charge	1-25-19	7-16-19
P r Paquette,	Superintendent	7-17-19	11-15-24
C ster L. Walker,	Traveling Auditor in Charge	11-16-24	12-31-24
A ust F. Duclos,	Superintendent	1- 1-25	12-31-26

WESTERN NAVAJO

(Established as a separate agency in 1901)

		TERM OF SERVICE	
Name	Title	Began	Ende
Milton J. Needham,	Superintendent	8-27-01	11-30-
Matthew M. Murphy,	Superintendent	12- 1-04	11-22-
Stephen Janus,	Superintendent	11-23-07	5-16-
Clarence R. Jeffries,	Superintendent	5-17-10	8- 8-
Claude C. Early,	Special Agent in Charge	8- 9-12	10-16-
William T. Sullivan,	Superintendent	10-17-12	7- 4-
Walter Runke,	Superintendent	7- 7-14	4-30-
Robert E. Burris,	Superintendent	5- 1-20	1-31-
Charles E. Coe,	Special Supervisor in Charge	2- 1-21	2-22-
Charles L. Ellis,	Special Agent in Charge	2-23-21	4- 8-
Byron A. Sharp,	Superintendent	4- 9-21	4-18-
Adelbert W. Leech,	Special Supervisor in Charge	4-19-23	5-31-
Harvey K. Meyer,	Superintendent	6- 1-23	3-31-
Chester L. Walker,	Superintendent	4- 1-30	2-15-
John E. Balmer,	Superintendent	2-16-33	9-30-
Francis J. Scott,	Superintendent	10- 1-34	6-30-

Absorbed into Navajo Agency 7-1-35

LEUPP AGENCY

(Established as a separate agency in 1908)

		TERM OF SERVICE	
Name	Title	Began	Ende
Joseph E. Maxwell,	Superintendent	8-14-08	2-28
Charles H. Dickson,	Supervisor in Charge	3- 1-11	3-31
Charles H. Dickson,	Superintendent	4- 1-11	10-11
Thomas K. Adreon,	Special Agent	10-12-14	3-31
Stephen Janus,	Superintendent	4- 1-15	3-31
Harmon P. Marble,	Superintendent	4- 1-24	4-30
William O. Roberts,	Superintendent	5- 1-26	6-30
John G. Hunter,	Superintendent	7- 1-27	12-31
John E. Balmer,	Superintendent	1- 1-29	2-15
Ernest H. Hammond,	District Supt. in Charge	2-16-33	10-31
Theodore B. Hall,	Superintendent	11- 1-33	8-31
Francis J. Scott,	Superintendent	9- 1-34	9-30
Gordon J. Baber,	Senior Clerk	10- 1-34	6-30
William H. Zeh,	Acting Administrator in Charge	10- 1-34	6-30

NORTHERN NAVAJO

(Established as a separate agency C. 1905)[2]

Name	Title	TERM OF SERVICE Began	Ended
bert H. Kneale,	Superintendent	1- 1-27	12-31-28
lie P. Six,	Superintendent	1- 1-29	1-31-31
nest H. Hammond,	Dist. Supt. in Charge	2- 1-31	6-30-31
nest R. McCray,	Superintendent	7- 1-31	6-30-35

EASTERN NAVAJO

(Established as a separate agency C. 1911)

muel F. Stacher,	Superintendent	1- 1-11	6-30-35

SOUTHERN NAVAJO

ugust F. Duclos,	Superintendent	1- 1-27	12-31-28
hn G. Hunter,	Superintendent	1- 1-29	9-30-34
illiam H. Zeh,	Acting Adm. in Charge	10- 1-34	6-30-35

CONSOLIDATED NAVAJO AGENCY FORMED JULY 1, 1935

ester E. Faris,	Superintendent	7- 1-35	4-15-36
Reeseman Fryer,	General Superintendent	4-16-36	5-31-42
mes M. Stewart,	General Superintendent	6- 1-42	6-30-49
an G. Harper,	General Superintendent	7- 1-49	11-12-49

WINDOW ROCK AREA OFFICE

Including Navajo and Hopi Agencies

an G. Harper,	Area Director	11-13-49	3-31-54

NAVAJO AGENCY FORMED APRIL 1, 1954

Warren Spaulding,	General Superintendent	4- 1-54	to present

---

[1] m "Here Come the Navajo," by Dr. Ruth Underhill, Appendix C.

[2] omplete. The first agent was W. T. Shelton in 1905, followed by Agents Coggeshall and Estep. The above s will be revised and corrected in subsequent editions of this report after necessary research has been npleted.

NAVAJO TRIBAL BUDGET[1]

FISCAL YEAR 1955

551—ADMINISTRATION

	REVISED BUDGET
A—General council	$ 152,194.00
B—Advisory committee	74,163.00
C—Offices and general office	74,137.00
D—Committees	7,926.00
E—Insurance and taxes	16,680.00
Total	$ 325,100.00

552—LAW AND ORDER

A—Committees	$ 2,521.00
B—Enforcement	243,267.00
C—Judiciary	43,390.00
D—Legal counsel	63,180.00
Total	$ 352,358.00

553—COMMUNITY SERVICES

A—Committees	$ 5,976.00
B—Chapters and district council	46,312.00
C—Welfare	368,841.31
D—Social services	9,280.00
E—Education	65,000.00
F—Fair and band	24,270.00
G—Grazing	54,012.00
Total	$ 573,691.31

554—RESOURCES

A—Committee	$ 57,84
B—Audit and finance	38,34
C—Trading	21,10
D—Credit	3,96
E—Engineering and mining	40,20
F—Water well maintenance	25,89
G—Realty	15,88
H—Forestry	58,90
I—Business management	32,36
J—Construction & maintenance	15,55
K—Extension	15,00
L—Range Conservation (PMA)	57,00
M—Land use and surveys	12,50
Total	$ 394,54

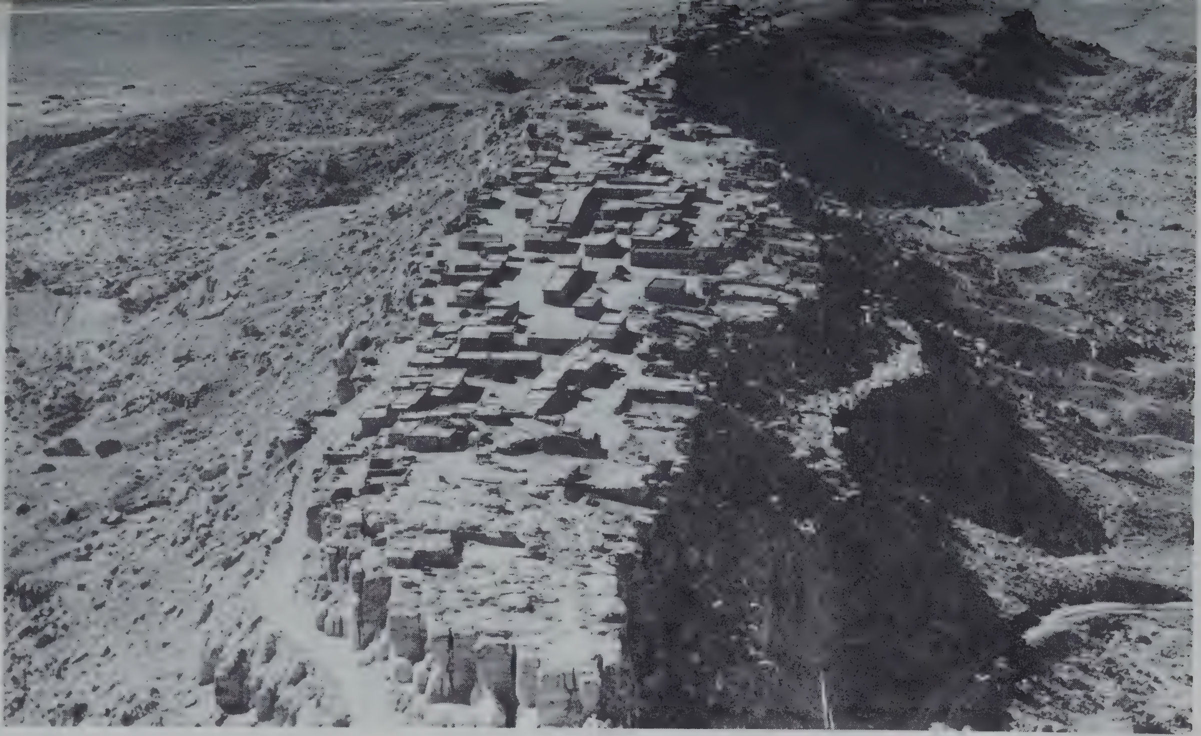
555—CAPITAL EXPENDITURES

A—Hospital dormitory	$ 20,00
B—Water wells	250,00
C—Tribal housing	331,70
Total	$ 601,70
GRAND TOTAL	$2,247,40

[1] The foregoing resume of the $2,247,401.08 Navajo Tribal Budget for fiscal year 1955 implic
tells a complete story of Navajo Tribal progress along many developmental lines, including Tr
Government, Tribal Business and Tribal self-help. The appropriation of $243,267.00 for law enfo
ment above in the Navajo country is more than four times greater than Federal funds appropria
for the same purpose. In addition to appropriations for well drilling, welfare and other pu
services, there are finances to support the Tribal Council and its several committees, assuring
fullest possible participation by the Tribe in the planning and execution of all programs, and
Tribe provides for its own legal and technical assistance in the form of a Tribal legal departm
a Mining Engineer, Sawmill Manager, Business Manager, and others. Also, the budget provi
funds for a tribal fiscal and accounting staff, and for the office of the Secretary-Treasurer,
well as money for the construction of necessary housing at the Window Rock headquarters.

To assure the continued growth of the Tribal organization in terms of government, busi
and resource development, the Tribal Council provided $65,000 in fiscal year 1955 to fina
scholarships for young Navajo men and women of demonstrated scholastic ability to permit th
to attend institutions of higher learning.

The Tribe is looking forward, and progressing at an astonishing rate and with the adop
of the proposed Tribal constitution as a firm foundation for Tribal government, the Council
the business organization will stand on a sound basis to protect Tribal interests and develop
servation resources while the Navajo people move gradually toward integration with the st
and the nation in which they live.



HANO & WALPI

In a setting characteristic of the mesas of the Navajo country, the Hopis placed their villages on a series of high, easily defended mesa-promontories.

CALENDAR OF EVENTS
HOPI INDIAN RESERVATION

MONTH AND LOCATION		EVENT
January		
First Mesa:	Walpi	Kiva Dances on weekends Buffalo Kiva Dance
	Sitchomovi	Buffalo Kiva Dance
	Hano or Tewa	Buffalo Kiva Dance
Second Mesa:	Shungopavi	Buffalo Kiva Dance
	Mishongnovi and	Social Dances
	Sipaulavi	Buffalo Dance
Oraibi:		Buffalo Dance
Hotevilla:		Plaza and Kiva dances irregularly scheduled
Moenkopi Village:		Pamuya-Social Dances, Kiva and Plaza Pouamaya (Bean Dance) in Kiva (Late January or early February)
February		
First Mesa:	Walpi	Bean Dance in Kiva (Determined by position of the moon)
	Sitchomovi	Bean Dance in Kiva Same date as Walpi
	Hano or Tewa	Bean Dance in Kiva Same date as Walpi Kiva Dances following at three villages
Second Mesa:	Shungopavi	Pawamu (Bean Dance) Opens Kachina season Public day long performance outdoors After Bean Dance, Kachina Dances held irregularly in k continuing into spring
	Mishongnovi and Sipaulavi	Bean Dance in Kiva So-yo-kos gathering food from children Night Dances in Kiva
Moenkopi Village:		Bean Dance in Kiva. (Late January or early February)
Oraibi:		Bean Dance
Hotevilla:		Kiva or Plaza dances irregularly scheduled
March		
Second Mesa:	Mishongnovi and Sipaulavi	Night and day dances irregularly scheduled
Moenkopi Village:		Kachina Dances in Kiva. Occasional Kachina Dances in Plaz
Oraibi:		Kiva Dances Hummingbird Dance in Plaza
Hotevilla:		Puppet Dance in Kiva
April		
Second Mesa:	Shungopavi	Plaza Kachina Dances
Hotevilla:		Plaza and Kiva Dances
May		
Second Mesa:	Shungopavi	Placa and Kiva Dances
Hotevilla:		Kachina Dances

MONTH AND LOCATION		EVENT
June		
ond Mesa:	Shungopavi	Plaza Kachina Dances
tevilla:		Kachina Dances
July		
t Mesa:	Sitchomovi	Home Dance on Plaza
	Polacca	Hopi Stockgrowers Association Rodeo at Rodeo Grounds, July 4th. (Charge only for parking cars)
ond Mesa:	Shungopavi	Niman (Home-going Dance). Day long public plaza dance at conclusion
	Mishongnovi and Sipaulavi	Home Dances
enkopi Village:		Home Dances in Plaza
tevilla:		Kachina Dances
ibi:		Home Dances (Kachina)
August		
t Mesa:	Walpi	Snake Dance in Plaza. Date determined by sun's position
ond Mera:	Mishongnovi and Sipaulavi	Snake Dance or Flute Dances
	Shungopavi	Snake Dance. Late August of even numbered years. Visitors may attend brief portions at conclusion of ceremony
enkopi Village:		Social Dances in Plaza
ibi:		Butterfly Dance in Plaza
evilla:		Snake Dance in Plaza Butterfly Dance Rodeo Fair
September		
nd Mesa:	Mishongnovi and Sipaulavi	Ladies Dances
nkopi Village:		Basket Dance in Plaza
bi:		Butterfly Dance in Plaza
October		
nd Mesa:	Mishongnovi and Sipaulavi	Basket Dances
	Shungopavi	Women's Society Dance in Plaza
November		
Mesa:	Sitchomovi	Harvest Dance in Plaza
d Mesa:	Shungopavi	Men's Society Dance in Plaza
	Mishongnovi and Sipaulavi	Two-horned and One-horned Dances

MONTH AND LOCATION		EVENT
December		
First Mesa:	Mishongnovi and Sipaulavi	Men and make Pa-hos
First Mesa:	Hano or Tewa Walpi Sitchomovi	Other Kiva and Plaza Dances and ceremonies held interchan ably among villages. No pictures taken except by spe permission from the Chief.
Second Mesa:	Mishongnovi and Sipaulavi	Pictures taken only by permission from the Chief.
	Shungopavi	Unscheduled dances—masked (kachina) and unmasked—o during the year. White people not barred from Hopi c monies where Hopi public may attend. Villagers are hos able. They dislike publicity concerning their ceremonies allow no pictures to be taken.
Moenkopi Village:		No pictures can be taken
Hotevilla:		Permission needed from the Chief for taking pictures. Per sion may be granted for taking pictures of Social Dan
Oraibi:		Permission needed from Chief for taking pictures.

Visitors who are interested in learning about Hopi life would be able to find some sort ceremony going on in the villages at virtually any time. Many of the family, clan, or soc ceremonies are not very spectacular, but they are basic to Hopi life.

NOTE: Limited accommodations are available for tourists. The Hopi Reservation is approxima 60 miles from Winslow and 70 miles from Holbrook, both towns being on Highway

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A list of publications relative to the Navajo is also available from the Franciscan Fathers, St. Michaels, Arizona

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[1] able from Phoenix Indian School, Phoenix, Arizona, or from Haskell Institute, Lawrence, Kansas.

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THE
NAVAJO YEARBOOK
OF
PLANNING IN ACTION

Compiled by
Robert W. Young
Assistant to the General Superintendent

Reservation Photography
by
MILTON SNOW

Navajo Agency
Window Rock, Arizona
1955

10.5
23

DEPARTMENT OF THE INTERIOR
DOUGLAS MCKAY, *Secretray*

BUREAU OF INDIAN AFFAIRS
GLENN L. EMMONS, *Commissioner*

GALLUP AREA OFFICE
W. WADE HEAD, *Area Director*

NAVAJO AGENCY
G. WARREN SPAULDING, *Gen'l Supt.*

1956

PREFACE

We believe that our accomplishments in the improvement of social and economic
pportunities and in the direction of self-determination for the Navajo Tribe during
e year 1955 fully vindicate the confidence that the Congress placed in us in pro-
ding the generous appropriations that made those accomplishments possible. We
e justly proud of the strides we have taken toward the objective of universal educa-
on for the Navajo because, with the Tribe and the Congress, we consider such
aining a primary need. Such progress is possible, not only because of the financial
pport we have received, but because of the continuing harmonious cooperative
pproach to the problems involved, by our Bureau staff, the Navajo people, and the
avajo Tribal Government jointly.

1955 has seen the reorganization of the Navajo Agency into five sub-agencies
improve our services and bring our administration closer to the Navajo people
roughout this far flung reservation; the past year has seen real progress in the eco-
omic advancement of the Navajo through relocation and the beginning of a program,
remost in the Commissioner's planning, which will lead to the development of
dustrial payrolls on or near the reservation; and it has seen the entry of the U. S.
ublic Health Service to contribute its vast resources and technical knowledge to raise
e health standards of the Navajo people.

In the present edition of our Yearbook we describe in detail each of the many
rojects and activities carried on under our Bureau and Tribal programs, each con-
ibuting to the solution of a major aspect of the problem of social and economic
habilitation for the Navajo.

G. Warren Spaulding
General Superintendent
Navajo Agency.

FOREWORD

We present herewith the fifth in a series of reports published by the Burea Indian Affairs to describe the progress of the Long Range Program on the Na Reservation, and to provide other information of interest to the public with rec to the nation's largest tribe of Indians. Report Number V relates to the cale year 1955.

In addition to information related directly to the Long Range Program, we provided a summary of "regular" appropriations and their use, and an appendi descriptive, statistical and historical information with regard to Indian matters erally and the Navajo people and their reservation specifically.

The data provided in the main body of the report have been carefully assem by members of the Navajo Agency Headquarters staff, with the assistance of adm trative personnel of the Gallup Area Office in the development of fiscal informa

A large part of the statistical data contained in the appendix have been d oped by Branch Chiefs and other staff members of the Navajo Agency from the and records, while the sketch on development of the Indian Bureau and policy rela to Indians, the articles on Navajo life, the Navajo country, the rise of Tribal gov ment and some of the factual summaries and tables were developed by the ed In so doing, the latter has drawn freely on a variety of old reports and document well as on published sources by such eminent scholars as Dr. Clyde Kluckhohn, Dr. Vogt, Mr. Richard Van Valkenburgh, Fr. Berard Haile and many others. Mr. Ric Van Valkenburgh, Dr. David F. Aberle and General Superintendent G. Wa Spaulding have been especially helpful in reading manuscripts and offering valu comment.

Robert W. Young, Editor.

INTRODUCTION

THE NAVAJO-HOPI LONG RANGE REHABILITATION PROGRAM
PUBLIC LAW 474 — 81st CONGRESS

In 1922, a campaign was started for the development and adoption of a five-year gram adapted to the individual requirements of each Indian reservation. Through urce development and better utilization of government activities, coupled with er tribal participation, it was hoped that self-supporting economies might be eved for all Indians.

For a variety of historical and other reasons the ensuing 5 years did not accom- n the realization of this goal. However, the motivations that found expression in 1922 campaign carried forward through succeeding years, and signaled the inning of a radical change in Federal Indian policy culminating in the programs, ectives, and general approach that have characterized Indian Affairs in recent rs.

In 1932, each Superintendent in charge of the five Navajo Agencies submitted a ort to the Subcommittee of the Committee on Indian Affairs of the United States ate, for inclusion in Part 18 of a document entitled "Survey of Conditions of the ans in the United States," summarizing conditions in their respective jurisdictions, making positive recommendations for the development of needed educational and lth services or facilities, as well as for resource development, road construction and er improvements. The ultimate goal of the program, as expressed by Secretary he Interior Wilbur was "to increase the facilities for the care and development of Indian for a short period of time with the general plan in mind of eliminating the an Bureau within a period of say twenty-five years."

Following World War II the inadequacy of Navajo Reservation resources and the sation of wartime income resulted in an economic crisis, the probable development which had been recognized as early as 1942 by the Navajo Agency. The then erintendent, Mr. J. M. Stewart, and Director of Navajo Education, Dr. George A. rce, initiated a series of "Post-war Planning Conferences" for the development of itive planning and recommendations, and published the latter in 1944 under the e of "A Projected Program for Meeting Social and Economic Needs of the Navajo ple."

During the period of 1946-50 a number of detailed studies were made of the then ical "Navajo situation," including the "Navajo Report," published in 1946 by a ordinating Committee composed of organizations interested in Indian Affairs; Report on the Navajo Indian Situation," prepared by the Navajo Agency in 1947; n Industrial Program for the Navajo Indian Reservation," by Max Drefkoff, Industrial nsultant, 1948; and "The People, A Study of The Navajos," by Dr. George I. San- ez, in 1948, containing a recommended program for development of necessary ucational facilities. The studies along with news articles, pamphlets, etc., culminated he report of the Honorable J. A. Krug, then Secretary of the Interior, entitled "The vajo — A Long Range Program for Navajo Rehabilitation." The so-called "Krug port" became the blueprint for legislative action in the form of Public Law 474, t Congress, signed into law by the President on April 19, 1950.

The Act in reference authorized the appropriation of $88,570,000 over a ten-y
period for the purpose of "promoting the rehabilitation of the Navajo and H
Tribes of Indians and a better utilization of the resources of the Navajo and H
Indian Reservations, and for other purposes," and committed the Congress to a l
range approach to the problems of social and economic rehabilitation of both tri

The total was authorized in 14 categories, with specified amounts of money to
expended for the accomplishment of stated objectives. Appropriations to date
suant to the authorization established by Public Law 474, 81st Congress, are sum
ized as follows:

APPROPRIATED

uthorized	1951	1952	1953	1954	1955	1956	Total
$88,570,000	8,645,520	6,675,100	9,215,800	9,773,810	8,344,290	8,660,810	51,315,330
School Construction							
25,000,000	3,994,800	3,073,000	3,375,000	6,171,000	4,300,000	3,287,000	24,200,800
Hospital and Health Facilities							
4,750,000	742,300	340,000	1,395,000	235,000	none	2,037,700[1]	4,750,800
Agency, Institutional & Domestic Water Supply							
2,500,000	542,200	136,000	125,000	100,000	125,000	none	1,028,200
Irrigation Projects							
9,000,000	567,475	277,300	495,000	711,000	645,000	636,500	3,332,275
Roads and Trails							
20,000,000	960,000	858,000	1,430,000	1,330,000	2,287,000	1,540,000	8,405,000
Soil & Moisture Conservation, Range Improvement							
10,000,000	300,000	538,300	570,000	648,500	519,780	686,850	3,263,430
Development of Industrial and Business Enterprises							
1,000,000	52,000	52,000	52,000	52,000	10,000	10,000	228,000
Resettlement on Colorado River Irrigation Project							
5,750,000	800,000	387,500	442,000	425,000	440,000	445,250	2,939,750
Surveys & Studies of Timber, Coal, Minerals							
500,000	15,545	125,000	125,000	101,310	17,510	17,510	401,875
Off-Reservation Placement and Relocation							
3,500,000	194,600	none	none	none	none	none	194,600
Telephone & Radio Communication Systems							
250,000	105,200	88,000	56,800	none	none	none	250,000
Revolving Loan Fund							
5,000,000	none	800,000	1,000,000	none	none	none	1,800,000
Housing & Necessary Facilities & Equipment							
820,000	26,300	none	none	none	none	none	26,300
Common Service Facilities							
500,000	345,100	none	150,000	none	none	none	495,100

---

his amount was appropriated under the item "Construction of Indian Health Facilities, Public Health Services"
68 Stat. 674, 675).

I. EDUCATION

LONG RANGE APPROPRIATIONS

The Long Range Act, with respect to education for the Navajo and Hopi Indians, orized an appropriation of $25,000,000 for: (1) the repair and enlargement of 8 ng boarding schools, (2) construction of 5 new large boarding schools, and (3) the deling, enlargement, replacement and/or conversion of 41 day schools to board- chool basis. The objectives of the educational program were: (1) to provide school ties on the Navajo and Hopi Reservations sufficient to provide educational oppor- ies ultimately to all school age Navajo and Hopi children on a boarding or day as circumstances might require, (2) to provide for elementary and vocational ation of children between the ages of 12-18 years who had not previously at- ed school, or who were 3 or more years retarded, (3) to transfer responsibility for education of Navajo and Hopi children to the public school system as rapidly as ble and, (4) to provide high school opportunities on and off the Reservation as ired.

During the period 1950-54 inclusive, 15 school construction projects were com- ed, exclusive of the Shiprock school and the Ramah dormitory. Construction in- ed complete new school plants at Sanostee and Mariano Lake, and construction of anent dormitories with enlargement of classroom facilities at Hunters Point, eau, Cheechilgeetho, Standing Rock, Pine Springs, Wide Ruins, Steamboat Can- Kaibeto, Nazlini, Coyote Canyon, Pinon, Crystal and Greasewood. At Ramah, rmitory was completed at a cost of $534,000 to permit Navajo children to attend ublic school there, and the Shiprock school, with a capacity of 1,150 pupils, begun 948, was finished in 1954. (The latter plant was not built with Long Range funds, was originaly designed for 750 pupils.)

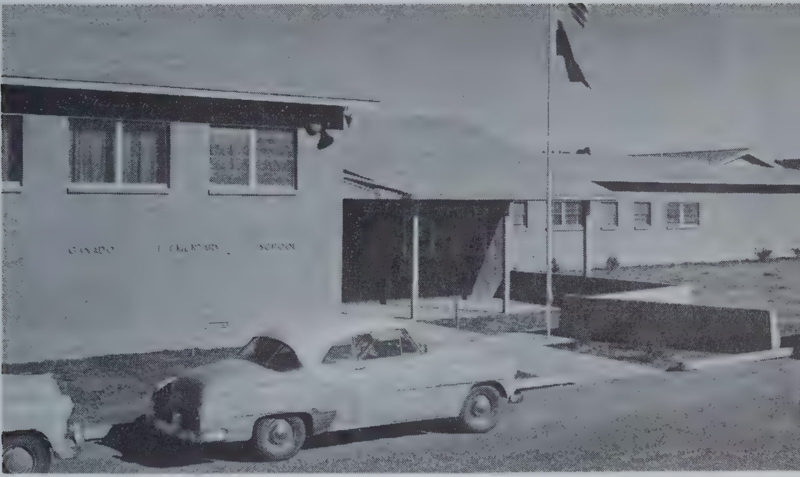
During the summer of 1955, the new boarding school at Kayenta was completed cost of $1,507,000, increasing school capacity at that location by 400 boarding 80 day pupils.

Status of Long Range Appropriations for Education:

The status of Long Range appropriations to date for school construction purposes mmarized as follows:

Authorized appropriation	$25,000,000
Appropriated, fiscal years 1951-55, incl.	20,913,800
Appropriated, fiscal year 1956	3,287,000
Total appropriated to date	$24,200,800

The construction program for fiscal year 1956 provides for the following projects, current status of which is indicated:



The new Public School at Ganado, Arizona, completed in the spring of 1955.

Second grade class, new Public School at Fort Defiance, Arizona, completed in January, 1955.

1. Permanent Dormitory Construction at
    - a. Holbrook, Arizona—$511,500. The contract has been awarded and construction is in progress.
    - b. Winslow, Arizona—$511,500. The contract has been awarded and construction is under way.
    - c. Flagstaff, 300 pupil dormitory facilities—$600,000. Site being investigated.
    - d. Richfield, 128 pupil dormitory facilities—$363,000. AE contract awarded and specifications prepared.
    - e. Holbrook, 120 pupil dormitory. Expansion—$330,000. AE contract being negotiated.
    - f. Snowflake, expansion of facilities—$58,000. Drawings and specifications being prepared.
    - g. Aztec, expansion of existing facilities—$25,000. Drawings and specifications being prepared.
    - h. Miscellaneous projects—$101,000.
2. Expansion of the Lukachukai Boarding School—$500,000. AE contract has been awarded. Drawings and specifications being prepared.
3. Oraibi School, water and sewage systems—$47,000. AE contract has been awarded. Drawings and specifications being prepared.
4. Quarters, various—$240,000.

EDUCATIONAL POLICY AND PLANNING

A major aspect of the policy and planning of Commissioner Glenn L. Emmons
ring the course of his stewardship of the Bureau of Indian Affairs has been the heavy
ess laid on universal education for the Navajo as a basic prerequisite to the social
d economic rehabilitation of the Tribe. The Navajo Tribal Council shared with the
mmissioner the conviction that the need for additional school facilities was urgent
d that emergency measures should be taken to meet the requirements of the large
mber of school age children who, in 1953, remained out of school because there were
t facilities available in which to accommodate them. In response to this urgent need
e Navajo Emergency Educational Program, commonly abbreviated to the letters
EP, was born. The latter involved maximum possible use for the Navajo of educa-
n funds available to the Bureau and the most efficient use of available school space;
nvolved the use of dormitories in peripheral towns to permit a number of Navajo
ldren to attend public schools; it included the use of temporary school facilities
the form of trailer schools; and it required the reprogramming of school construction
ds to gain classroom space at the expense of non-essentials. This emergency attack
the educational problem has resulted in a sharp increase in enrollment of Navajo
ldren, raising the total at the end of 1954 to 23,671 in contrast with the 16,110
ollment in the 1953-54 school year. A year later, the total enrollment stood at
560 (on December 30, 1955).

Many knotty problems are involved in attainment of the goal of universal Navajo
ucation, and in the operation of some aspects of the Reservation school system. Of

these, a major one concerns the road system, with special reference to the day scho both public and Bureau. In many localities, the transportation of day pupils by is made hazardous and, on occasion impossible, by the poor condition of local ro In some localities school children must get out of the busses and walk around dange washes and other hazards while the driver maneuvers the empty vehicle to a p where the passengers can again climb aboard. In many instances transportation i slow and the bus route so long that children must spend a disproportionately long t in traveling to and from school. Again, lack of all-weather roads, coupled with s tered Navajo population in some areas, hampers the day school operation on Reservation, and it is not easy to convince parents to place small children in boar schools which are not located near home. The latter factor gives rise to over-crowd of some boarding schools and under-enrollment in others.

The Navajo educational program is a complex and difficult operation, requi constant re-evaluation with planning on a projected basis to meet foreseeable fu requirements. With Navajo population increasing at the estimated rate of 2.25% annum the expanding need for school facilities in future years must be taken account now to remain abreast of the requirements.

Accordingly, and with a view to future planning, steps were taken in the fa 1955 to survey the Reservation road and transportation systems in their relation to the schools to make the present program more effective and to meet future ne and especially to forestall the development of another backlog of children out of sc at a future date. The study has resulted in a recommendation for amendment of road construction program to take into consideration the transportation requirem of the Reservation school system, and has provided a projection of anticipated sc age population through the 1959-60 school year as a basis for educational plan (See Census in Appendix).

The policy of the Bureau of Indian Afairs in regard to Navajo education clearly set forth on May 26, 1955 by the Commisisoner of Indian Affairs in a docun entitled General Education Policy, the text of which is provided herewith:

> Under Congressional authorities and Departmental direction it shall be the policy o Bureau to simultaneously attack the education problems of Indians on all fronts and a levels, from beginning grades through adult programs, by laying the problems before the pu and the Congress, and by working in cooperation with the Indian people, State, private and public school agencies, and other Federal agencies in providing the type of education op tunities that best meet the needs of each individual and each group.
>
> The ultimate education objective is educational competency for all Indian people so they may participate in the national life equally with other citizens.
>
> The educational needs of Indian groups vary from group to group. Therefore, the Bu shall plan educational programs in terms of the specific needs of each group; and seek from the Congress to carry out each program.

THE NAVAJO SCHOOL PROGRAM

I. Navajo Education Policy

It shall be the policy

a. To provide educational opportunities for Navajo children on the reservation from beginners through age 12 (or through grade 6) in order that small children may be near their parents during the child's formative years.

b. To develop educational opportunities in public schools for Navajo children at the junior and senior high school levels (grades 7-12) in order that Navajo youth may have the opportunity to participate in public school educational programs on an equal basis with non-Indians.

c. To combine vocational education opportunities in non-reservation Federal schools as long as the need exists for 13-18 year old Navajos who are two or more years retarded because of lack of educational opportunities.

d. To provide through State and other resources educational opportunities for mentally and physically handicapped Navajo children (blind, deaf, spastic, etc.).

e. To encourage Navajo high school graduates to pursue advanced training in keeping with their individual interests and capabilities, and to develop sources of aid through scholarship programs.

f. To provide emergency type instruction to bring education to children and adults who cannot yet be served by a school such as hogan instruction, instruction by radio, television, etc.

II. Implementation of policy objectives
Ages 6-12 will attend schools on the reservation

a. In public schools wherever they are available or can be made available.

b. In Federal day schools wherever population will support a day operation. Temporary trailer facilities or other type temporary facilities will be provided to test permanency of population.

c. Existing boarding facilities will be expanded on the reservation at the nearest locations to the parents to care for the remainder of the 6-12 year group who cannot be accommodated in day facilities. As roads are developed children who can be reached will attend on a day basis. When a boarding facility can serve all children within the area on a day basis, the boarding facility will be converted to day operation.

Ages 13-18 will attend school off the Reservation.

a. Navajo children ages 13-18 who are up to grade will attend public schools with non-Indians wherever public school facilities can be made available for them within the States of their residence The Bureau will provide dormitory care and make suitable contract arrangements for instruction in the public schools. (Exceptions—enrollments in established mission and existing public schools on the reservation.)

b. Navajo children in the 13-18 age group who are retarded two or more grades will continue to attend off-reservation Federal schools to receive special vocational instruction as long as the need exists. (The need for this special type instruction will cease six years after all six year olds are enrolled in school.)

III. Payment for Instruction in public schools

a. Individual Navajo Indians living in and contributing to the economy of a community on the same basis as non-Indians shall receive educational services for their children in the local public schools at the communities where they work with no financial aid from the Bureau.

b. The Bureau will share the financial burden with public school districts for Navajo children residing in organized public school districts and attending the local public schools if the presence of such children and non-taxable Indian land creates a burden on the district. The financial aid will be provided on a need basis as outlined in an approved plan agreed upon by the State (or district) and the Bureau.

c. The Bureau will pay the full educational cost for out of district Navajo pupils enrolled in public schools. The per pupil cost to the Bureau shall not exceed the actual cost for non-Indian pupils. Contracts will be made individually with each town or school board on the basis of formal agreements between the respective districts and the Bureau and approved by the State Department of Education.

IV. Construction

a. Trailer schools shall be converted to permanent day schools when the population over a two year period has been sufficient to maintain a two, or more clossroom unit. The trailer facilities shall be moved to new try-out locations, or shall be used temporarily to expand a permanent location.

b. Boarding facilities on the reservation shall be expanded through permanent and temporary measures to care for the yearly increase of school age Navajo population. Permanent expansion of all types of facilities shall not exceed 12,000 spaces. Expansion of seats on the reservation beyond 12,000 should be made through temporary or semi-permanent measures, to care for the school age population until such time as the resources and relocation programs for Navajos adequately provide for excess Navajo population.

c. Off-reservation Federal facilities should be used to the fullest to provide opportunities for Navajo children needing special type programs, and continued in use as long as this need exists.

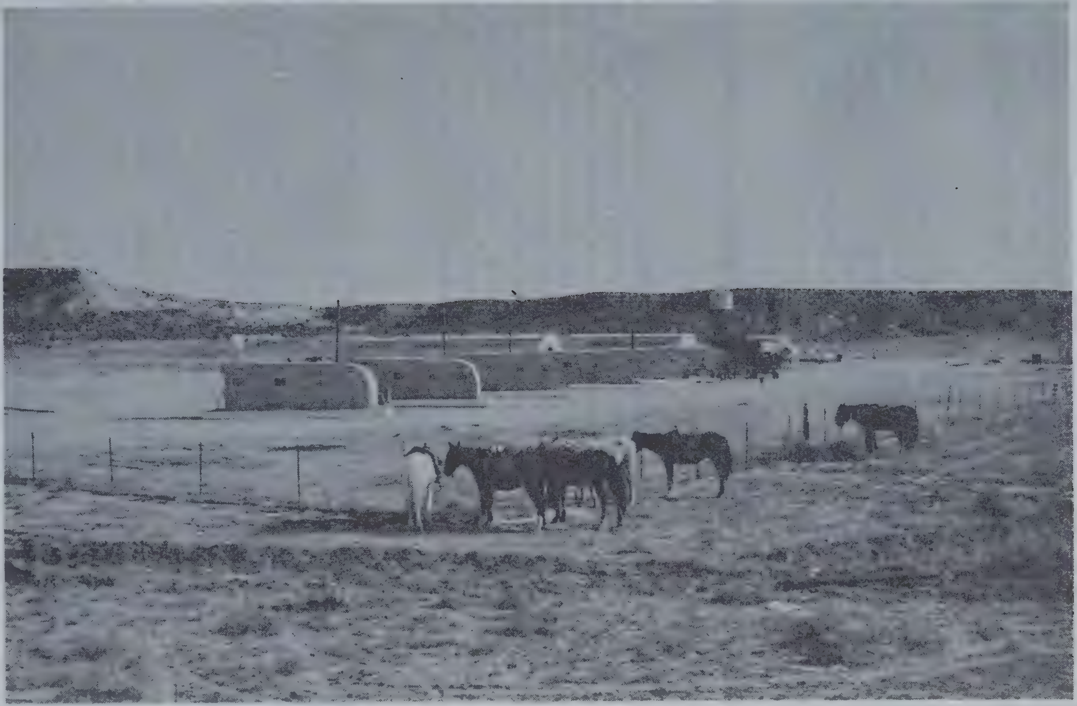
d. Additional off-reservation facilities must be developed as the need develops for more space for junior and senior high school pupils. In approximately five years there will be a sudden impact in high schools resulting from the NEEP program, which calls for planning now.

At the close of the 1955 calendar year, 24,560 Navajo children were enrolled in various types of schools ranging from Reservation trailer schools to special institutions for the physically handicapped, colleges, universities and trade schools. The major emphasis was that on elementary education, and the progress made in the various categories of the elementary program is summarized herewith by school or program type:

The Reservation Schools. On December 30, 1955, 9,581 Navajo children were enrolled in the several types of schools located within the Navajo country and operated by the Bureau or the State Departments of Public Instruction. With exception of the Shiprock Boarding School and the Fort Wingate Boarding School, which offer grades beginners through 6 and 4 through 12 respectively, the Reservation schools do not go beyond the fourth grade. This grade arrangement was made in accordance with policy governing school operation in the 1955-56 school year, which provides the following grade distribution among the several types of Reservation schools:

The new Gallup Dormitory, completed in the summer of 1955.

Classroom scene, Navajo children in the Gallup Public School.



The Low Mountain Trailer School.

1. The Central Boarding Schools: Beginners through grade 4.
2. The Local Boarding Schools: Beginners through grade 3.
3. The Community and Regular Day Schools: Beginners through grade 2.
4. The Trailer Schools: Beginners through grade 1.

In general, the policy with regard to the Reservation school operation stressed the importance of providing facilities as close as possible to the homes of the smaller children, and the improvement of instructional programs by limiting the grade range. Students enrolled n grades beyond those offered generally in the Reservation schools were placed in public schools in conjunction with the peripheral town school dormitory program, or in the Bureau boarding facilities at Shiprock or Fort Wingate.

The several categories of Reservation school operations are described individually herewith:

A. The Boarding Schools: On December 30, 1955, 8,269 Navajo pupils were enrolled in the Reservation Boarding Schools. In this category one new facility, located at Kayenta, Arizona, was placed in operation in the fall of 1955, with a capacity of 535 pupils. At the same time the former Reservation boarding schools at Kinlichee and Huerfano were temporarily discontinued as school operations, and were placed in operation as dormitories in conjunction with nearby public schools. Those at Steamboat Canyon and Klagetoh are currently operated as boarding schools, but a small number of pupils attending the Ganado Public School are housed in the dormitories at these locations as a temporary expedient. The school at Cornfields was closed, and the pupils who formerly attended that facility now attend the Ganado Public School.

B. The Bureau-operated Reservation Day Schools: On December 30, 1955, a total of 293 Navajo children were enrolled in five day schools operated by the Bureau at Many Farms, Round Rock, Salina Springs, Cove and Moenave. The first two named were begun in 1951, and that at Salina Springs in 1952. They were largely an outgrowth of local Navajo effort, and utilize various remodeled buildings. The schools at Moenave and Cove are former day schools which will not be converted to a boarding basis since they are not needed as such at present.

C. The Reservation Public Schools: Of the estimated 5,000 Navajo children enrolled in public schools on December 30, 1955, excluding those housed in the peripheral town dormitories, approximately 50% were in the facilities erected on and adjacent to the Reservation under Public Law 815. These are located at Bloomfield, Shiprock, Nava, Naschitti, West Gallup and Thoreau in New Mexico and at Sanders, Fort Defiance and Ganado in Arizona. Additional P.L. 815 facilities are in the process of completion at Crownpoint, New Mexico and Tuba City, Arizona and will be ready for use in the coming school year.

Public Law 815 was enacted by the 81st Congress on September 23, 1950, to provide facilities for a free public school education for children whose parents reside on federally owned land, not taxable by the State in which it lies. Operational costs are provided under the terms of Public Law 874 or through the Johnson-O'Malley Act.

Additional applications for funds under P.L. 815 are pending in the U. S. Department of Health, Education and Welfare with relation to school districts lying on or near the Navajo Reservation.

D. The Peripheral Town Dormitory Program. At the close of calendar year 1955, 1,315 Navajo children were enrolled in the public schools in 6 towns located in the area surrounding the Navajo country, housed in Bureau operated dormitories, as shown in the summary table below, and negotiations are under way for a similar operation at Flagstaff, Arizona.

PRESENT BORDERTOWN DORMITORIES

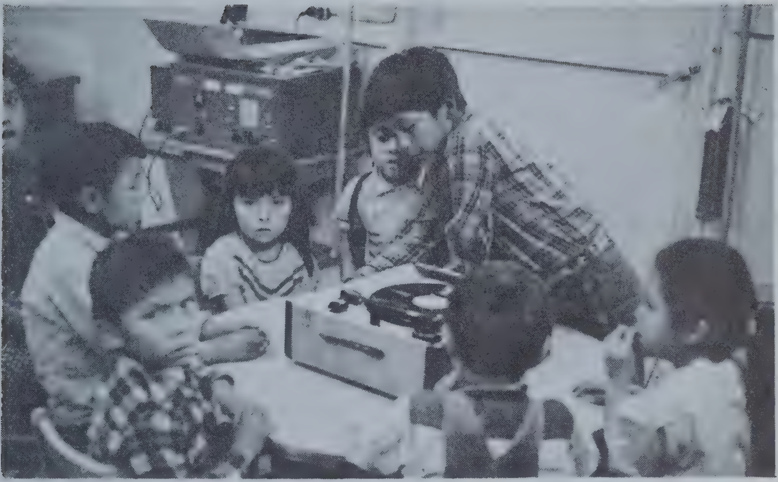
School	1954-55 Capacity	1955-56 Capacity	1955-56 Enrollment (12-31-55)	Proposed Enrollment 1956-57
Aztec, N. M.	120	120	121	120
Gallup, N. M.	300	500	511	500
Holbrook, Ariz.	120	200	200	300
Richfield, Utah	120	120	124	125
Snowflake, Ariz.	120	120	120	120
Winslow, Ariz.	180	235	239	300
Total	960	1,295	1,315	1,465

During 1955 the Bureau of Indian Affairs entered into formal agreements, for a 20-year period, with the Boards of Education in Gallup, Winslow, Holbrook, and Richfield under the terms of which each school district concerned will be allotted $1,000 per capita for the quota of Navajo dormitory students they agree to take in the public schools of such district over a 20 year period, to meet the cost of expanded classroom construction and otherwise offset the impact of Navajo enrollment. The Bureau of Indian Affairs further agreed to pay the full per capita cost of public school instruction for Navajo pupils to the above-mentioned school districts during each year of the contract.

At Gallup, New Mexico, dormitory facilities were erected by private enterprise and are rented by the Bureau; at Winslow and Holbrook dormitories are under construction by the Bureau; at Aztec and Snowflake the Bureau has erected temporary facilities, and at Richfield temporary rented facilities are in use pending government construction.

Navajo parents repair a bus road to the Low Mountain Trailer School.

Tribally purchased clothing for school children is issued at the Low Mountain Trailer School.

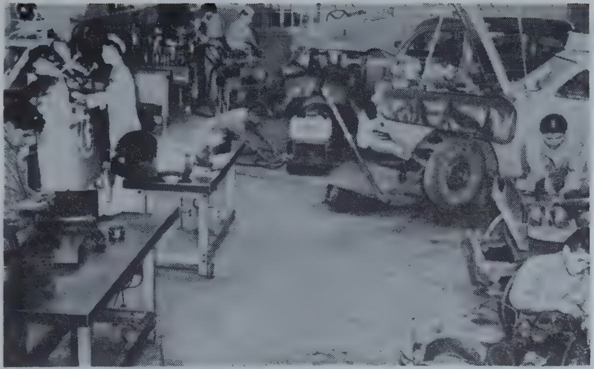


Navajo children walk long distances to . . .

Attend classes at the Cow Springs Trailer School.

A few of . . .

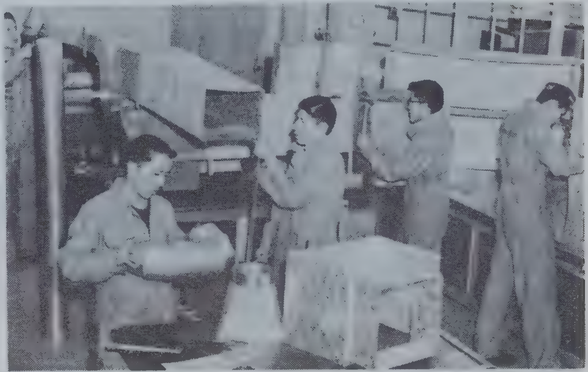
The more than 2,000 Navajo children at Intermountain.



Auto mechanics shop.

Baking and cooking.

Machine shop.



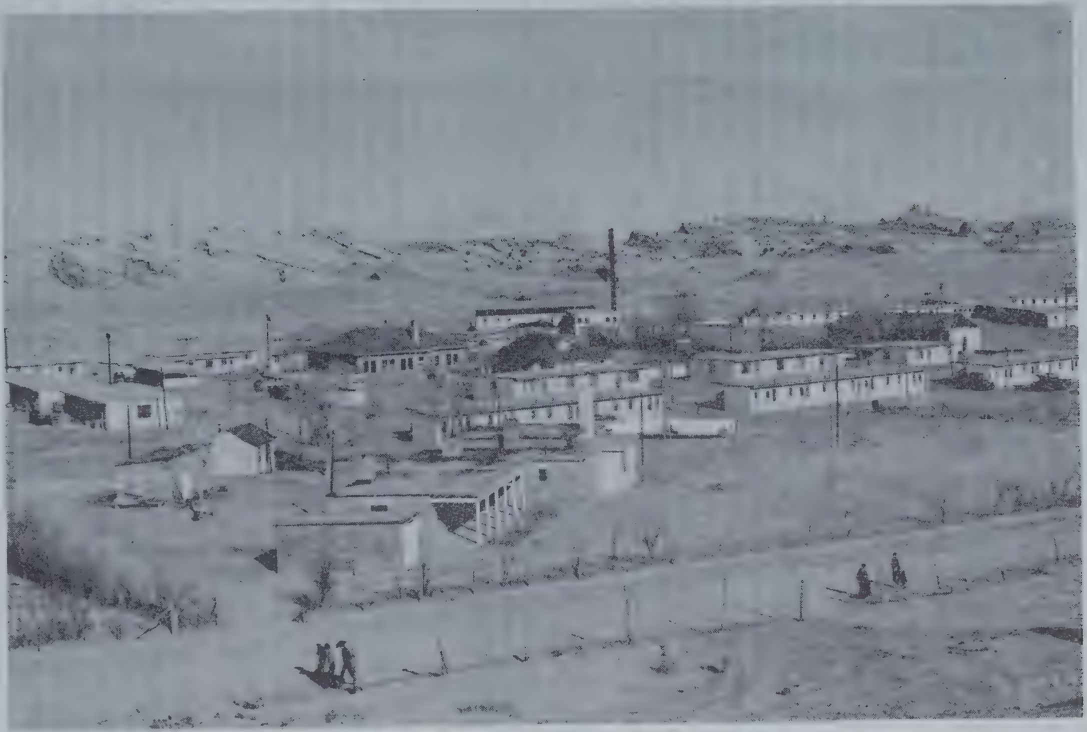
Sheet metal shop.

Painting.

Carpentry.

Cabinet.and mill work.

Upholstery Shop.



The new Kayenta Boarding School, completed in the summer of 1955.

E. The Special Navajo Program and the Off-Reservation Boarding Schools.. The social and economic circumstances of the Navajo people following World War II have been described elsewhere in the present report, and will not be treated again at this point, except to repeat that, after 1945, there was a growing clamor for education on the part of the Tribe, and school space was available for only a fraction of the school age population. To increase the available school space, if only by a few, Sherman Institute, located at Riverside, California, agreed to make room for 290 Navajo students in 1946, to be enrolled in a special Navajo Program. Actually, the original agreement involved only 200 students, but Navajo response was so overwhelming that Sherman stretched its facilities to accommodate the larger number.

It was thus in the fall of 1946 that the Special Navajo Program was born, with the objective of providing basic knowledge of written and spoken English, social adjustment to off-Reservation life and values, vocational training and other essentials to Navajo children 12 years of age or older, with little or no past schooling, and with little or no knowledge of English. Through the use of teacher-interpreters and an accelerated instructional program, it was thought feasible that a basic elementary education could be provided within a 5-year period, at the end of which many of the program graduates would marry and embark upon their adult life equipped with the basic tools necessary for gaining a livelihood independently of Reservation resources.

During the first school year in which the Special Program was operated it was, of course, experimental. However, the results of the experiment were highly encouraging, for it was found that pupils in the age group concerned might approximate as much as 3 years academic achievement, and make more than 3 years growth in personality and social development within a school term of 180 days.

Generally speaking, the curriculum and procedural pattern developed and used at Sherman in the 1946-47 school year proved so sound in practice that it was continued in the next school year, 1947-48, and three additional off-Reservation Boarding Schools were added as Special Program facilities. These were Stewart (Nevada), Chilocco (Oklahoma), and Phoenix (Arizona). The entry of those schools into the program increased total enrollment to 915 (of which 886 remained at the end of the school year).[1]

Again the results of the Special Program were highly rewarding. The total 5-year program was designed to place emphasis in the first 3 years on oral and written English, arithmetic, science, and social adjustment, along with generalized vocational experience. The Navajo language was used when necessary during the first year as a medium for instruction, but at the end of the 3rd year the student was expected to have attained approximately a 6th grade level in academic achievement, at which time he would choose a vocation and the emphasis would shift to vocational training in the 4th and 5th years.

(1) Drop-outs, transfers to Sanatoria and hospitals, death, etc., accounted for the difference.

In the 1948-49 school year, boarding schools at Albuquerque (New Mexico), Concho (Oklahoma) and Chemawa (Oregon) entered the Special Navajo Program increasing total program enrollment to approximately 1,654.

At mid-term in the 1949-50 school year remodeling of the former Bushnell Hospital at Brigham City, Utah, had progressed sufficiently to permit the entry of that huge plant into the Navajo educational program, under the name of the Intermountain Indian School. The latter accepted an initial enrollment of 542 Navajo Special Program students.

In the following school year, 1950-51, Sherman increased its Special Program enrollment to 600 Navajos and 100 Papagos, and Intermountain accepted an additional quota of several hundred Navajo children aged 9, 10 and 11 years for enrollment in a modified Special Program extending beyond five years.

In the 1951-52 school year, further progress in the remodeling of the dormitories and classrooms at Intermountain permitted that institution to enroll 790 Navajo pupils in the regular and 1,019 in the modified Special Program, bringing total program enrollment to 3,844.

In the1952-53 school year 3,783 pupils, 3,597 Navajo, 177 Papago and 9 Apache, were enrolled in the Special Program and 611 in the Modified (6 year) Program, to a total of 4,394.

In 1953-54, total enrollment stood at 4,217, and the following year, 1954-55, it was increased to 6,077, including regular program students.

The program has met an urgent need on the part of Navajo children who have grown to adolescence without an opportunity for education, and the degree to which the expedient has proven successful in providing salable vocational skills to this segment of the population is amply apparent in the analysis of Special Program graduates contained in the Appendix.

Off-Reservation living based on career employment in industry is closely associated with the Special Program, a fact which is treated further in connection with the section entitled "Off-Reservation Placement and Relocation."

In addition to the Special Program the Fort Sill, Anadarko, Phoenix and Albuquerque schools enroll about 600 Navajo junior and senior high school students, of which 49 are expected to graduate in May, 1956.

Lastly, the mission schools located on and adjacent to the Reservation at St. Michaels and Ganado in Arizona, and at Rehoboth and Farmington in New Mexico, have provided school opportunities for Navajos for many years, enrolling 1,408 Navajo children in the 1954-55 school year.

The school program is carried on in close cooperation with the Navajo Tribal Council through the medium of the Council Committee on Education. The latter has assisted materially in the formulation of education policy and procedure, and has taken the initiative in keeping the Tribal Government and the Navajo people informed.

The Committee has assisted in the enrollment of school children, has visited many of the school operations on and off the Reservation, and has taken an active role in the development and adoption of a Council Resolution making school attendance compulsory between the ages of 6-18, and establishing the framework for an annual student recruitment campaign with responsibility therefor to be borne by Council Delegates over the Reservation.

In September, 1955, Mr. V. P. Richards, Editor of the Holbrook Tribune News, wrote an editorial entitled 'Educated Indian Children to Compete with Whites," inspired by Navajo school children traveling through Holbrook, Arizona, in chartered busses, enroute to the off-Reservation Boarding Schools. His observations, quoted in part below, are a fitting tribute to the education program and to the eagerness with which Navajo children face their school careers.

> "With opening of schools all over the country a matter of days or weeks away, it is a lively topic of discussion in all quarters. Because it is of primary concern to us both in business and personally, we may be more than casually interested in its portents.
>
> "One of the most heart-warming and deeply satisfying experiences we have had in that connection came to us this week in the observance of the hundreds of Navajo Indian school children passing through Holbrook enroute from their homes in various sections of the reservation to schools in other states.
>
> "Traveling on chartered buses, Campbell Coffee House had reservations for providing meals on scheduled meal stops for a large number of the busses. Becoming interested in this mass movement of children, we could not resist a closer look at them, and discussing them with the bus drivers, the caterers and the children's supervisors.
>
> "We said the experience was satisfying. It was because it was such a contrast to discussions with grammar-school-age pupils in our local communities. Without exception ,so far, we have found no enthusiasm locally that school is about to open for another term. To most of them it is a "restriction" on their freedom to continue doing nothing that has marked their summer vacations.
>
> "A few, approaching the age limit, over which school attendance is not compulsory, are "not going to school unless I have too." To these few, and the large number who "hate to see school start again," we want to direct the following remarks:
>
> "Only a few years hence, whether to their liking or not, they will enter the labor market. It will come as a shock that they will be competing with students, fresh out of school, from the reservation to the north of U. S. Highway 66. We say "competing" because:
>
> "Indian children are anxious to go to school. They look upon it as the greatest thing that has ever happened to them. While it is true some of them were homesick as they passed through Holbrook, going many miles away from home for a number of months, there wasn't one of them we could find that would go back home if it meant he could no longer go to school.
>
> "In answer to questions of what they wanted to learn we found they are most anxious to become teachers, doctors, traders, mechanics, engineers in construction work, carpenters, masons and any number of other occupations. And they're not kidding anyone—least of all themselves.
>
> "It is reassuring to find they had no doubt about the fact that they would learn to be all these things if they went to school. Few of them had "spending money" above a little with which to buy candy, soda water, and an occasional comic book.

"As dozens crowded the coffee house for their meals, there was no disorder, no hollering, no boisterousness, no smart cracks. All were well-behaved, whether from shyness or by training. There was little or no complaining, and a noticeable respect for their supervisors, those who served them, their bus drivers, and such of the general public who chanced to encounter them while they were eating.

"Here were hundreds of future American citizens—and we're convinced they will be good ones.

"With not much of a labor shortage now in northern Arizona, these native Americans are going to be in strong position to take the choice employment opportunities, because they will be schooled, they will be polite, they will be eager to work and for the most part they will be frugal. They will place the unschooled, easy-going, fun-seeking white American at a distinct disadvantage.

"We would be distinctly insensitive to what is going on around us if we didn't take this opportunity to praise U. S. Indian Commissioner Glenn L. Emmons .We have often differed with him in politics and some business matters, but it is a vibrant, living memorial to his character, foresight,.and vision that he has brought about this mass education of an underprivileged segment of the nation so long neglected." (1)

(1) Reproduced with the permission of Mr. V. P. Richards.

With the growing number of Navajo children enrolled in elementary and high schools in recent years, there has been a proportionately great increase in attendance at colleges, universities, nursing and trade schools, as summarized in the Appendix. This is not only a natural outgrowth of the expanded education program, but partly it is a reflection of Tribal interest in higher education. In the 1954 fiscal year the Navajo Tribal Council provided $30,000 to finance educational grants to outstanding Navajo high school graduates. A year later, the appropriation was increased to $65,000, and in the current fiscal year $100,000 was made available. In combination with $10,000 of Federally appropriated funds for use in providing free tuition grants, 76 Navajo boys and girls are presently enjoying a free education in advanced schools. They must maintain rigid scholastic standards in order to remain eligible for continuing scholarship grants, and educational loans are available to those who cannot qualify for free Tribal grants.

In addition to scholarship aid, a few Navajo young people are attending college with "working scholarships." This arrangement permits a limited number of students to work for their board and room at one of the off-Reservation Boarding Schools, while in attendance at a local college.

2. HOSPITAL AND HEALTH FACILITIES (1)

The Long-Range Rehabilitation Act authorized a total appropriation of $4,750,000 to reconstruct, expand, or replace hospital facilities at Shiprock, Tuba City, Winslow and Chinle; to establish a system of field clinics — especially in conjunction with the larger reservation schools; to develop mobile medical and dental services; and to provide an adequate public health program.

In general, the Long-Range plan emphasized the importance of an intensive preventive health program through the development of health education and better understanding of the need for modern sanitation facilities and techniques, a key to the prevention of illness. Long-Range planning also recognized the need for the improvement of facilities for curative services by modernizing hospitals, expanding existing clinics and health centers, and establishing new field clinics—a plan directed toward an integrated system of health facilities to provide more frequent and better services for people on the Navajo and Hopi reservations.

The original Long-Range plan contemplated (1) increasing the number of hospital beds from 286 general and 150 tuberculous to 390 general and 400 tuberculous; (2) construction of field dispensaries at Tohatchi, Chinle, Kayenta, and Gallup, each staffed with physicians, public health nurses, and ancillary personnel for public health and medical care services, and health education; (3) a number of small field clinic stations where limited services would be available; (4) mobile units staffed by a physician and equipped with X-ray units; (5) additional public health nurses, and (6) dentists to serve on an itinerant basis at hospitals, health centers, and field clinics.

Through 1954, a total of $2,711,400 of the authorized $4,750,000 had been appropriated, with the status of construction and plans as follows:

1. Shiprock Heating and Power Plant: Health portion complete	$ 464,700
2. Tuba City Hospital, complete	1,421,700
3. Tuba City Heating and Power Plant	200,000
4. Tuba City Steam Distribution System	34,000
5. Various Quarters for Health Personnel	390,000
6. Shiprock Hospital, Engineering Plans and Surveys	80,000
7. Fort Defiance Sewage System	40,000
8. Keams Canyon Steam Distribution System	81,000

The amount of money authorized in the Long-Range Act was insufficient to carry out the total program. During 1954 and 1955, there were basic changes recommended in the plans for construction of health facilities.

To meet the immediate needs for care of Navajo tuberculous patients, and to find beds for some 500 Navajo patients, it was decided to contract with State and private sanatoria which had beds available. During 1954 and at present there are contracts with 10 sanatoria in Arizona, Colorado, California, and New Mexico. As a result of an active treatment program, all patients known to have tuberculosis and willing to be hospitalized are under treatment.

In November 1955, there were 466 Navajo patients in the following contract hospitals:

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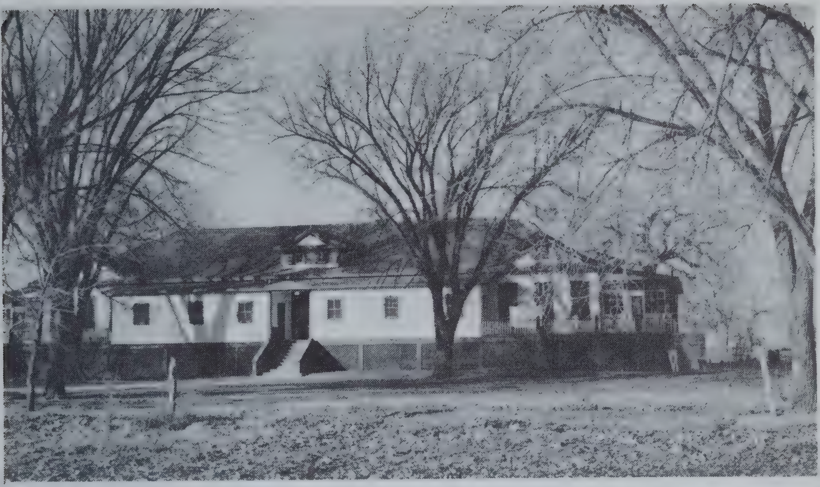
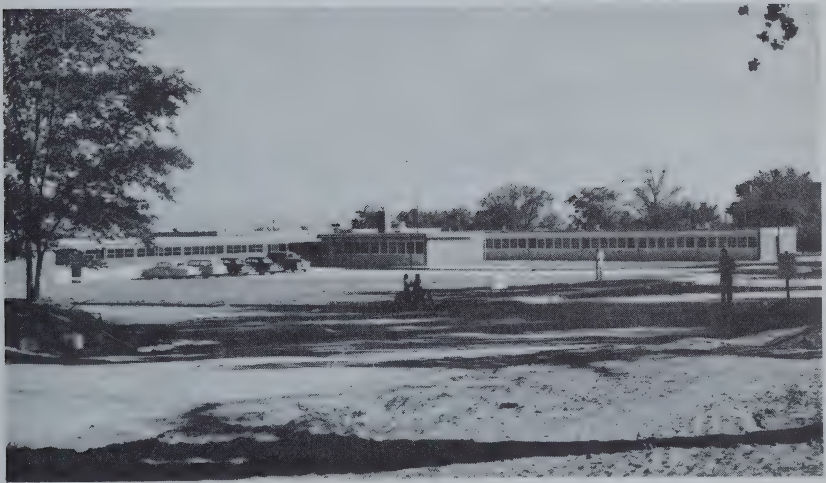
(1) Prepared by The Public Health Service, Division of Indian Health, Washington, D. C.



A new hospital is planned to replace this old facility at Shiprock with a structure like . . .



The new Tuba City Hospital, completed in the fall of 1954.

Hospital	No. of Patients
Barfield Sanatorium, Tuscon, Arizona	72
Cragmore Sanatorium, Colorado	70
Fort Stanton Sanatorium, New Mexico	107
Mesa Vista Sanatorium, Colorado	86
Pottenger Sanatorium, California	52
Presbyterian Hospital, Albuquerque, New Mexico	46
Santa Teresita Sanatorium, California	20
State T. B. Sanatorium, Socorro, New Mexico	5
Valmora Sanatorium, New Mexico	8
	466

During 1955, the number of patients each month has ranged from over 460 to about 500.

With this plan in effect and after an evaluation of the Long-Range plan and review of the need for new facilities, it was recommended that no tuberculosis hospital be constructed, that the Fort Defiance Medical Center be modernized and converted, with a small unit for tuberculous patients, and that a new 200-bed medical center be constructed at a location where it would be practicable to recruit and retain professional staff and where housing is available.

A re-evaluation of the Long-Range plan also resulted in a revision in the plan for field health centers and clinics.

Transfer to the Public Health Service

Full responsibility for the Indian health program was transferred to the Public Health Service of the Department of Health, Education, and Welfare, on July 1, 1955, by Public Law 568 of the 83rd Congress. To administer this program, the Public Health Service organized the Division of Indian Health as a part of its Bureau of Medical Services.

Since the transfer, the Division has further expanded health services initiated under the Bureau of Indian Affairs through the authorization of the Long-Range Rehabilitation Program for the Navajo and Hopi Indians.

At present, the Public Health Service operates 5 Indian hospitals which serve the Navajo population and the hospital at Keams Canyon for the Hopi. The Service has continued its contractual arrangement for the care of tuberculous patients in off-reservation hospitals and also with State mental hospitals for care of the mentally ill.

There is a total of 472 beds available in the Public Health Service Indian hospitals, including 100 beds for tuberculous patients at Fort Defiance:

Crownpoint	56
Shiprock	46
Tuba City	75
Winslow	57
Fort Defiance	198
Keams Canyon	40

Each of these hospitals has a large outpatient service, and three (Shiprock, Tuba City, and Keams Canyon) operate preventive health units in conjunction with the outpatient clinics.

Large health centers are operated at Tohatchi and Chinle, and medical services are provided at the Gallup Clinic in the Gallup Community Indian Center.

In line with the recommendations in the Long-Range plan and reflecting later modifications in the program, the Public Health Service this year has been authorized to proceed with the construction of the 75-bed hospital and health unit at Shiprock, New Mexico, to replace the inadequate facility now being operated. Appropriations for this project totaled $1,450,000. The program plan is complete and architect-engineers are developing working drawings and specifications.

The construction of a 200-bed medical center and outpatient clinic at Gallup, New Mexico, has been authorized, and $200,000 was appropriated for planning purposes. It is estimated that the construction will cost at least $3,200,000.

A chain of field health centers and clinics has been planned to serve as a front line of contact with the Indians and to supplement medical care and preventive services provided at hospitals. These field health facilities serve primarily as part of an extensive preventive medicine and public health program. The facilities to be included are a laboratory, X-ray unit, examining and treatment rooms, and space for group teaching and demonstration by public health nurses, health education aides (community workers), and sanitarian aides.

More than $700,000 has been appropriated for the construction of health centers at Kayenta, Indian Wells, Pinon, and Round Rock, Arizona, and Pueblo Pintado, New Mexico; for renovation and expansion of clinics at Chinle and Winslow, Arizona, and Tohatchi, New Mexico; and for an addition to the hospital clinic at Crownpoint, New Mexico. These field facilities will supplement services at hospital outpatient clinics, will serve as centers for therapeutic and preventive health services, and will provide maternal and child health services, health education, tuberculosis case-finding services, and follow-up.

The development of field health services and the location of health centers follow in general the pattern proposed in the Long-Range plan.

Health education is a necessary part of the health program to help Indians understand the cause of disease and the habits and practices necessary to prevent it. Health educators are providing orientation in public health to college trained Navajos so that the latter can carry on health educational activities among their own people.

Improved sanitation is an important aspect of the expanded Long-Range program. Intensive courses are given to train Navajos as sanitarian aides so that they can work with their people in improving the environmental sanitation program. These sanitarian aides are adapting already-existing range wells to make the water safe and sanitary for human consumption.

Besides public health nursing, health education, and promotion of improved sanitation, preventive services provided at health facilities include tuberculosis control, communicable disease prevention, maternal and child care, and dental public health.

The Navajo Tribe continues its close cooperation with the Public Health Service in the development of these increased public health services.

The Public Health Service, in planning for the Navajo-Hopi health program, is carrying out the intent of the Long-Range Rehabilitation Act within the limits of its available resources, with only those modificatons which are found necessary with new developments and emphases in the field of public health and medical care.

The Division of Indian Health is seeking the help of outside resources in the development of the health program for Indians. Universities have been encouraged to participate in special health projects. Cornell University is conducting a research project at the Fort Defiance hospital, where a study of the clinical effects of new chemotherapy agents is under way in an effort to make a greater impact on morbidity from tuberculosis in the population group. A project is also under way, through a contract with Cornell University, for research on the Navajo reservation in an effort to assess accurately the total health situation. The pilot study is being conducted through the clinic at Many Farms.

Last year the Congress requested that the Public Health Service make a careful and comprehensive evaluation of the entire Indian health problem to provide a basis for determining what would be required to raise Indian health to an acceptable level. The first step in this evaluation was an appraisal of the most pressing needs for alterations, repairs, replacements, or additions to hospitals, other health facilities, and housing. This survey was completed and a report was submitted to the Congress last November.

After the immediate needs for the physical plant were determined, a study was begun to define the Indian health problem more precisely in terms of the specific categories which affect the Indian populations, their health needs, and the health resources required to meet the needs.

THE CORNELL UNIVERSITY—NEW YORK HOSPITAL PROJECT(1)

Since January 1952, Cornell University Medical College has been conducting a joint enterprise with the Navajo Tribe on the development and use of new drugs for the treatment of tuberculosis. This work has been carried on within the Reservation hospitals. It has been highly successful, not only in its contribution to the development of new drugs for tuberculosis, but also in acquainting the Tribal leaders, the governmental officials, and the university scientists with the complex problems of working cross-culturally in the field of health. From this experience, it became clear that there was a great need for working out new ways by which the modern Reservation health services could be made more utilizable by the people living at a distance from the hospitals.

The U. S. Public Health Service was fully aware of this need when it assumed responsibility for Indian health in July 1955, and set about instituting a considerably expanded program in field health. By the same token, both the Public Health officials and the other knowledgeable health groups involved, recognized that the institution of new health practices among the Navajo was in itself a complex matter. It was considered essential, therefore, to have, in addition to the greatly expanded Public Health Service program, a small pilot program wherein innovations in health practices under consideration for area-wide application could be subjected to testing and modification.

Accordingly, in July 1955, the Cornell University group was chosen to conduct such a pilot enterprise within a localized but reasonably representative area. The project is under the professional direction of the Departments of Medicine and Public Health and Preventive Medicine of the Medical College, but enjoys the fullest cooperation, as well as additional financial support, from both the Public Health Service and the Navajo Tribe. The geographic area finally chosen was selected on recommendation of the Health Committee of the Tribal Council after careful review of a number of alternative locations, and full consultation with the Public Health Service, Bureau officials, Tribal officials and a number of community leaders. The Many Farms-Rough Rock area was selected for the initial enterprise.

An essential feature of the enterprise is its emphasis on the training of Navajo men and women to serve as auxiliaries to the field nurses and physicians.

In sum, the objectives of the enterprise are to attempt to define the proper concerns of a health program among the Navajo by working in a localized area and to attempt to develop, and determine the practicability by actual trial, of new methods for the delivery of such health services as are found to be required. The information derived from this program will be considered continually for its wider application through a closely knit system of communications and consultations with the Area and Sub-Area health authorities and with the Navajo Tribe.

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(1) Prepared by Dr. Walsh McDermot, Department of Public Health and Preventive Medicine, Cornell University Medical College.

3. AGENCY INSTITUTIONAL AND DOMESTIC WATER SUPPLY

The Long Range Act authorized the appropriation of $2,500,000 for the development of an adequate water supply to serve Reservation communities, new schools and other improvements authorized under the Long Range Program. To date $1,028,200 has been made available, of which $345,000 was transferred to the U. S. Geologic Survey to defray the costs of geological studies and ground water reports as necessary preliminaries to well construction.

SUMMARY OF APPROPRIATIONS

FISCAL YEARS 1951-56

Transferred to U. S. G. S.	$ 345,000
Drouth Relief, 1951	27,200
Engineering	76,550
Misc. Expenses	56,750
Well Construction	522,700
TOTAL	$1,028,200

No appropriation was made for this purpose in fiscal year 1956, and work was directed in calendar year 1955 to the completion of projects authorized in the program outlined for fiscal year 1955. These include:

	Allocation	**Status**
1. Dennehotso	$ 4,000	Complete
2. Seba Delkai	12,000	Complete
3. Teec Nos Pos	13,000	Complete
4. Torreon	14,750	Complete
5. Lukachukai	14,000	Complete

In addition to the above, three wells were completed with funds available under the NEEP Program, as follows:

1. Jones Ranch	$10,000	Complete
2. Iyanbito	10,000	Complete
3. Kimbeto	15,000	Complete

4. IRRIGATION PROJECTS

LONG RANGE APPROPRIATIONS

The first irrigation project constructed by the Federal Government on the Navajo Reservation was the flume and ditch system completed at Fort Defiance in 1893 by Acting Agent Edward H. Plummer. This project served to irrigate a small tract of land on Bonita Creek.

In late 1955 a 1,200 acre block of new irrigation farmland was completed on the Hogback Project.

Subsequently, a crude diversion dam was built on Black Cheek to irrigate lands on the Red Lake Project, and additional structures were completed over the years at other points on the Reservation to bring the total of projects completed or in the process of completion to about 67, ranging in size from a few acres to several thousand acres. The largest is the Hogback Project which, when finished, will embrace an area of about 15,320 acres, of which 9,000 acres have been completed to date.

Many of the early projects utilized temporary materials, including logs, brush and loose rock for diversion structures, which sometimes washed out during freshets; and hollowed logs as conduits for irrigation water, with the result that they have rotted away across the years. To develop many of the Reservation projects to their highest production potential and to make others usable at all, it has been necessary to replace old materials or build permanent structures of rock masonry and reinforced concrete.

The farming resource of the Navajo Reservation has increased in value steadily with the development of irrigation, and will become a major aspect of Reservation economy with construction of the proposed Navajo (Shiprock) Project on the San Juan River. The Long Range Act included an authorization for the appropriation of $9,000,000 with which to reconstruct, enlarge and supply additional water to existing Reservation projects to increase irrigable acreages from 33,000 to 58,000, and with which to prepare surveys and plans for the large Navajo Project.

Long Range Appropriations to date for irrigation purposes are summarized herewith:

Authorized appropriation	$9,000,000
Appropriated fiscal years 1951-55, incl.	2,695,775
Appropriated fiscal year 1956	636,500
TOTAL	$3,332,275

The 1955 fiscal year appropriation was allocated for the following purposes:

1. **Hogback Project:** Construction of the siphon across the San Juan River and appurtenant works to provide water to 1200 acres of newly developed land on the south side of the river. Construction was completed on March 23, 1955, at a contract cost of $320,026.31.

2. **Hogback Project:** Installation of prefabricated canal lining on the Hogback main canal, completed under contract on June 13, 1955, at a cost of $76,040.48.

3. **Hogback Project:** Construction of the main canal and laterals; and subjugation of 1200 acres of land on the south side of the San Juan River (a project known as the Helium Unit), completed under contract on October 12, 1955, at a cost of $206,149.32.

4. **Red Lake Project:** The Personal Services Limitation carried in the 1955 Appropriation Act made it necessary to halt force account work on this project in 1954. The construction of the main canal on the east side of the project and the lateral canal system, with subjugation of 300 acres of land, was completed finally in November, 1955, by Government forces, at a cost of $43,783.89.

A new house nears completion by a Navajo irrigation farmer near Shiprock.

Navajo irrigation farmers feeding cattle on the Hogback Project.

THE NAVAJO PROJECT

The first field surveys for development of a major irrigation project to subjugate an estimated area of 122,000 acres near Shiprock, New Mexico, were begun in 1945. In 1947, the irrigable acreage was classified by the Bureau of Reclamation, and other preliminary work was then completed, including the running of canal lines, subdivision of the area, etc.

In 1951 the Preliminary Report was issued, consisting of a compendium of factual information gathered from field surveys and other investigations carried out under an inter-Bureau agreement. Subsequently, $71,775 of Long Range Program funds were transferred to the Bureau of Reclamation to finance surveys, especially in connection with the geologic and materials aspect of the investigation. During the period December 1951 to May 1952 photogrammetric engineers completed aerial mapping as a preliminary to further canal alignment surveys.

The Feasibility Report was completed and submitted, in January, 1955, to the various agencies of the Department of the Interior for review and comment, and the report was revised and submitted to the Secretary along with a similar report for the San Juan-Chama Project by joint memorandum, Indian and Reclamation Bureaus, dated February 20, 1956.

The proposed acreage of the Navajo Project was placed at 137,500,[1] to be divided into 1200 farm units ranging from 90-105 acres each, depending on the class of land involved. The project was included as a participating project in Senate Bill 500, entitled "To Authorize the Secretary of the Interior to Construct, Operate and Maintain the Colorado River Storage Project and Participating Projects." The Senate, during the first session of the 84th Congress passed the Bill, providing for conditional authorzation of the Navajo Project, pending submission to Congress of a feasibility report. In the House of Representatives, a similar Bill (H.R. 3383) was introduced and hearings were completed, but no definitive action was taken during the first session of the 84th Congress. The House version of the legislation did not include the Navajo Project, but did include the Navajo Dam and Reservoir.

On April 11, 1956, there was enacted Public Law 485 (70 Stat. 105), "To authorize the Secretary of the Interior to construct, operate and maintain the Colorado River Storage Project and participating projects, and for other purposes." The Act authorized the construction of Navajo dam and reservoir which will provide a stored water supply for the Indian irrigation project, when and if constructed, but it did not authorize the construction of the Indian irrigation project. Section 2 of the Act directs the Secretary in carrying out investigations of projects included in the Upper Colorado River Basin to give priority to the completion of planning reports on certain projects among which is the Navajo Irrigation Project.

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(1) Of which approximately 111,500 acres would be within the Shiprock Division, located within the Navajo Reservation boundaries.

Section 6 of the Act provides, among other things, "In the event that the Navajo participating project is authorized, the costs allocated to irrigation of Indian-owned tribal or restricted lands within, under or served by such project and beyond the capability of such lands to repay, shall be determined, and in recognition of the fact that assistance to the Navajo Indians is the responsibility of the entire Nation such costs shall be non-rembursable."

Additional studies, surveys, and investigations are being made for the purpose of refining various engineering features, and these studies will continue throughout the 1956 fiscal year, financed by an allocation of $60,000.

ENGINEERING PLANS AND SURVEYS

The following allocations of funds under the Long Range Program have been made since fiscal year 1951 with relation to the proposed Navajo Project:

1951	$150,000	1954	$ 75,000
1952	15,000	1955	50,300
1953	60,000	1956	60,000
TOTAL			$410,300

Approximately 1200-1400 families could be placed on the proposed 115,000 acre Shiprock Division of the Navajo Project to make their livelihood directly from irrigation farming, while an additional estimated 2,200 families could live indirectly from the project through employment, business, etc. Availability of this new agricultural base could be highly instrumental in relieving the existing pressure on the grazing resource, and in bringing about a better, more economic distribution of grazing permits. The resultant concentration of a sizable segment of Navajo population would permit their educational needs to be adequately served by public schools operated on a day basis.

The Navajo Tribe has participated financially and otherwise with non-Navajo groups interested in the total proposed Upper Colorado River Storage Project, in the realization that the Navajo Project would go far in promoting economic security and stability for the Tribe. This fact is apparent, not only in terms of the number of people who could live directly and indirectly from the project, but also in terms of the increased productivity of the area of the Reservation which would be affected by the development. Whereas the range carrying capacity of that area is presently about 5,116 sheep units year long, the same land, under irrigation could support 436,000 sheep units year long, or almost as many as the present stocking of the total Reservation!

REGULAR APPROPRIATION

A total of $210,192 was made available to Irrigation in fiscal year 1956 from Regular Appropriations for operation and maintenance purposes on the Navajo Reservation. This program includes:

1. Distribution of irrigation water on Reservation projects and annual billings to water users for assessments.

2. Maintenance of canals and laterals.

3. Replacement of old wooden structures with concrete structures.

4. Training of Navajo farmers toward the time when they will assume total responsibility in project operation and maintenance.

5. ROADS AND TRAILS CONSTRUCTION

LONG RANGE PROGRAM

In planning the Long Range Program, an adequate system of primary and secondary roads was viewed as an essential prerequisite to the development and conservation of natural resources, the implementation of the education and health programs and the attainment generally of the long range objectives. Effective rehabilitation of the Navajo and Hopi people could not be effectively carried out in the absence of a basic road system to serve the requirements of surface communications and transportation, and to meet this need, Public Law 474 authorized appropriation of $20,000,000 for the construction of 636 miles of primary and 633 miles of secondary road.

First priority in primary road construction was assigned, in consultation with the Navajo Tribe, to Route 3, the main road crossing the Reservation, and through the Hopi country, beginning at Tuba City, Arizona, and ending at the Arizona-New Mexico State line near Window Rock.

Funds allotted for road construction under the Long Range Program through fiscal year 1956 are summarized herewith below:

Authorization, Long Range Act	$20,000,000
Appropriated through fiscal year 1956	8,405,000
Balance	$11,595,000

A typical road through the badlands on the Navajo Reservation.

Trail crosses bare rock on a Reservation road near Rock Point.

This typical sand road near Chilchinbetoh makes the bussing of school children difficult.

	Navajo	(Hopi)
Appropriated, fiscal 1951-55, incl.	$5,307,054	($1,557,946)
Appropriated, fiscal 1956	1,220,000	(320,000)
Total Navajo and Hopi Appropriated	$8,405,000	

At the end of calendar year 1955, approximately 62 miles of highway had been completed with bituminous surfacing or bituminous stabilized base course, in addition to 118 miles of gravel surface, and 174 miles of grade construction. The following resume summarizes the status of road construction work to January 1, 1956.

STATUS OF ROAD CONSTRUCTION TO JANUARY 1, 1956

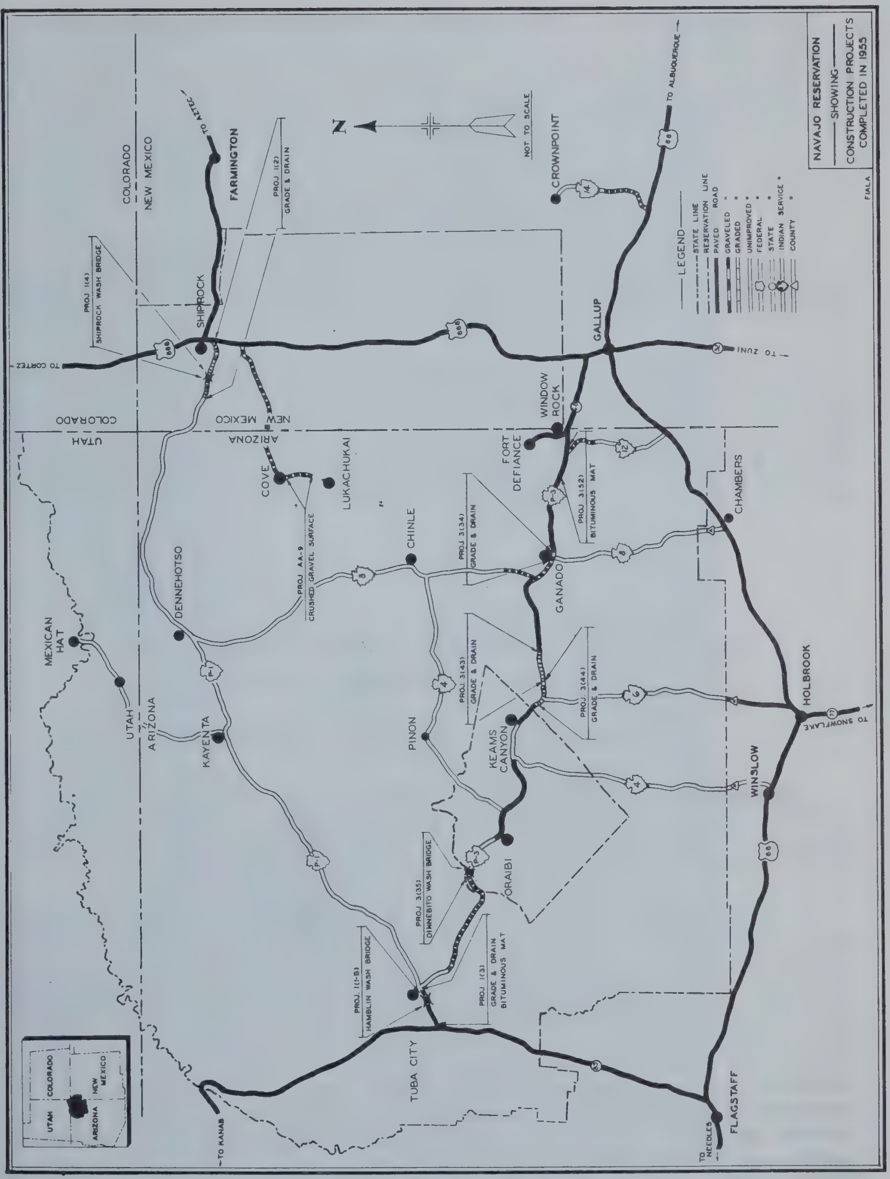
	Miles Grade Const.	Miles Base or Gravel Surface	Miles Bit. Surface	Lin. Ft. of Bridge
ROUTE 3:				
Tuba City to New Mexico State Line near Window Rock	95.835	82.478	48.188	573
Total Route 3	95.835	82.478	48.188	573
ROUTE 1:				
Tuba City to Shiprock	24.105	11.547	7.0	407
Total Route 1	24.105	11.547	7.0	407
OTHER PRIMARY ROUTES:				
Route 12—Window Rock to Ft. Defiance	6.662	6.662	6.662	296
Route 8—Jctn. Route 3 north toward Chinle	7.925	7.925	...	..
Total Other Primary	14.587	14.587	6.662	296
SECONDARY ROUTES:				
Hunters' Point	4.506	4.506	...	127
Total Secondary	4.506	4.506	...	127
ACCESS ROADS:				
Cove Road	45.0*	41.0*		
Mexican Water	30.0			
Monument Valley	19.0	19.0		
Lukachukai Saddle	8.0	8.0		
Total Access	102.0*	68.0*		
Totals	241.033	181.118	61.850	1403
COMPLETED ON LONG RANGE	174.033	114.118	61.850	1403

* Includes 35.0 miles on Long Range Secondary System.

The 1956 Long Range appropriation, totalling $1,574,700 will be used to finance additional construction work on Route 3, including the surfacing of a 19.5 mile segment of road between Ganado and Sawmill Junction, and for the surfacing and grading of the Window Rock streets. In addition four bridges are programmed for construction, two of which are on Route 1, and two of which will serve Route 3. Also, two airstrips were completed at Tuba City and Crownpoint in 1955, and two will be constructed in 1956 at Chinle and Kayenta.

The newly completed highway bridge over the Little Shiprock Wash.

Highways like this segment of Route 3 can provide accessibility, with attendant prosperity, to the Reservation.


NAVAJO RESERVATION
SHOWING
CONSTRUCTION PROJECTS
COMPLETED IN 1955
FIALA
LEGEND
STATE LINE
RESERVATION LINE
PAVED ROAD
GRAVELED "
GRADED "
UNIMPROVED "
FEDERAL "
STATE "
INDIAN SERVICE "
COUNTY "
N
NOT TO SCALE
COLORADO
NEW MEXICO
UTAH
ARIZONA
FARMINGTON
TO AZTEC
SHIPROCK
TO CORTEZ
PROJ. I(4) SHIPROCK WASH BRIDGE
PROJ. I(2) GRADE & DRAIN
CROWNPOINT
TO ALBUQUERQUE
GALLUP
TO ZUNI
WINDOW ROCK
FORT DEFIANCE
PROJ. 3(52) BITUMINOUS MAT
CHAMBERS
COVE
LUKACHUKAI
PROJ. AA-9 CRUSHED GRAVEL SURFACE
CHINLE
PROJ. 3(34) GRADE & DRAIN
GANADO
DENNEHOTSO
MEXICAN HAT
PROJ. 3(43) GRADE & DRAIN
PROJ. 3(44) GRADE & DRAIN
KAYENTA
PINON
KEAMS CANYON
HOLBROOK
TO SNOWFLAKE
WINSLOW
ORAIBI
PROJ. 3(35) DINNEBITO WASH BRIDGE
PROJ. I(1-B) HAMBLIN WASH BRIDGE
PROJ. I(3) GRADE & DRAIN BITUMINOUS MAT
TUBA CITY
TO KANAB
FLAGSTAFF
TO NEEDLES
666
66
89
14
12
8
6
4
77
P-1
P-3
UTAH
COLORADO
ARIZONA
NEW MEXICO

Map showing progress of road construction.

Increasing activity on the Reservation in connection with uranium mining has created a demand for access roads. To meet this need, a total of 72 miles of gravel surfaced road has been constructed, of which 35 miles were included in the proposed Long Range Road System, with funds certified through the Bureau of Public Roads by the Atomic Energy Commission.

NAVAJO MAINTENANCE PROGRAM

A total of $243,875 was made available for fiscal year 1956 to maintain 2,298 miles of Reservation roadway of which 1,472.5 is included in the primary road system, and the remainder of which is in the secondary system.

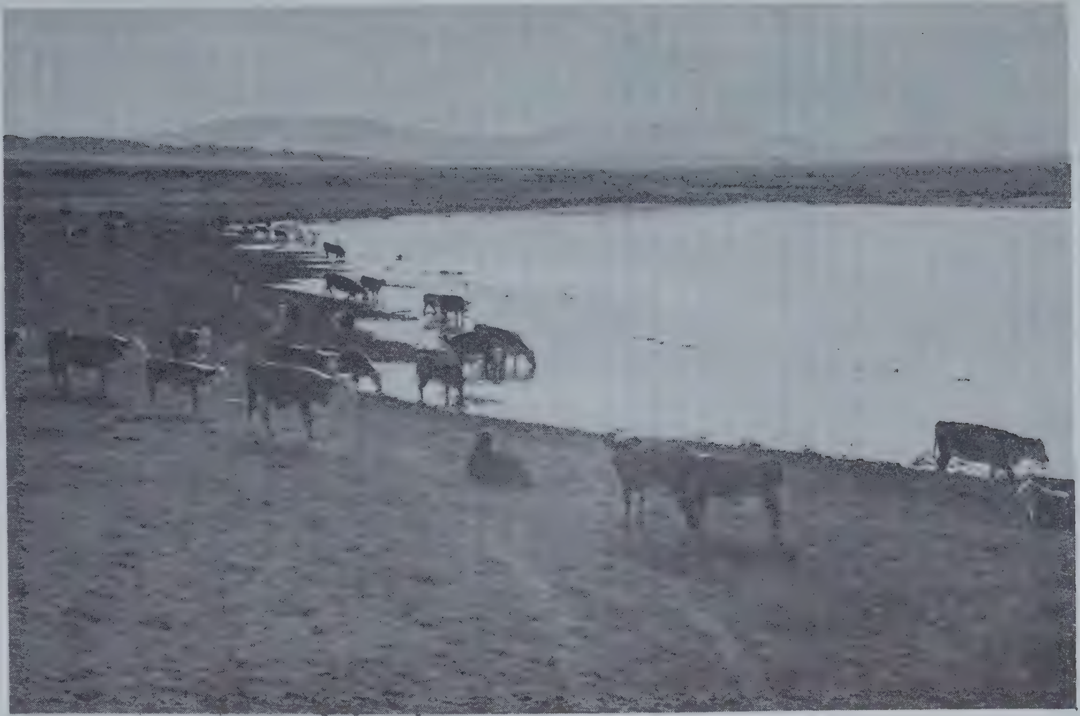
An adquate road system, as envisioned in the Long Range Act is essential, not only to serve the requirements of resource development, surface communications and transportation generally, but to serve the school system. In some portions of the Navajo country roads serving day schools, both Federal and Public, are unsafe and inadequate, thus hampering the education program and adversely affecting the average daily attendance of children who must depend on school busses for transportation.

6. SOIL AND MOISTURE CONSERVATION AND RANGE IMPROVEMENT WORK

LONG RANGE AND REGULAR APPROPRIATIONS

The grazing land available on the Navajo Reservation can support an estimated 512,000 sheep units of livestock on a sustained yield basis if range improvements are developed to facilitate proper distribution of the stock. There are presently about 481,000 sheep units on the range, owned by about 8,000 permittees.

In former times the Navajo people were almost exclusively dependent upon stock raising for a livelihood, and although the rapidly increasing population has faced the necessity for diversifying its economy, the grazing land still remains a valuable Reservation resource. In the Long Range Program, an appropriation of $10,000,000 was authorized for range water development, soil and moisture conservation, and other measures aimed at bringing the range resource to its highest possible potential. In so doing, it was hoped through diversification of the total economy that the number of permittees using the Tribal range might ultimately be reduced to about 2,000, thus making it possible for those Navajos who continue to live from stock raising to own at least 250 sheep units. At present, with some 8,000 permittees, less than 200 families own in excess of 250 sheep units of stock. As a consequence, the range resource continues in use as a source of supplemental income for a majority of the stock raisers.



Damming of the Little Shiprock Wash produced this stock and wildlife tank, and halted further erosion by the wash.

With the appropriation in fiscal year 1956 of $686,850 in Long Range funds, the total appropriated since the inception of the Program was brought to $3,263,430. Appropriations for soil and moisture conservation and range improvement, both Long Range and Regular, are summarized herewith for fiscal years 1951-56, inclusive:

Fiscal Year	Regular Appropriation	Long Range Appropriation	Total
1951-55, incl.	$2,148,980	$2,576,580	$4,725,560
1956	495,220	686,850	1,182,070
Total	$2,644,200	$3,263,430	$5,907,630

The Soil Conservation Program: The principal objective of the Soil Conservation program of the Navajo Reservation is to control erosion, save the soil and increase the productivity of farm and range land resources. The total program involves construction of dykes, jetties, diversion dams, water spreaders, ponds and charcos; land levelling, contour plowing, tree planting, brush eradication, seeding, soil and other surveys, land classification, educational activities, etc.

The Bureau of Indian Affairs, through the Branch of Land Operations, provides technical and material assistance to supplement the resources of Indian land users. However, the program is a cooperative effort involving the Navajo Tribe, the Navajo people themselves and the Agricultural Conservation Program Service.

In the past year, $70,000 in Tribal funds was made available by the Navajo Tribal Council for Soil Conservation work; $121,702 was contributed in Agricultural Conservation and Stabilization Program funds; and the Navajo land users themselves contributed $1,135,145 worth of labor and materials. To these contributions is added Long Range and Regular funds appropriated by the Federal Government for Soil Conservation work.

Long Range and Regular appropriations allocated for Soil Conservation purposes since fiscal year 1951 are summarized herewith:

Fiscal Year	Regular Appropriation	Long Range Appropriation	Total
1951-55, incl.	$ 952,100	$1,680,300	$2,622,400
1956	193,500	540,570	734,070
Total	$1,135,600	$2,220,870	$3,356,470

During the past year great emphasis was placed on sagebrush and juniper eradication as a major range improvement project. The program was expanded as a result of the success attendant upon the brush clearing operation initiated in July of 1953 in the Jeddito area. At the latter location about 21,120 acres of range land was badly overgrown wih sagebrush, of which approximately 2,864 acres have been cleared so far in 100-300 foot strips. The acreage thus cleared showed a gain of 160 pounds of usable forage per acre over the uncleared acreage on the basis of random clippings made in the fall of 1955.

Range Water Supply: The development of adequate range water is essential to securing better distribution of Navajo livestock. When large numbers of stock must be driven to a single watering place the surrounding vegetation is over-grazed and soil erosion is often produced or made more serious. The development of stock water is financed in part by Long Range funds appropriated for Soil and Moisture work, and partly by Regular appropriations provided for well-drilling, operation and maintenance.

Allocations of Regular and Long Range funds for stock water development during the period fiscal year 1951-56 are summarized below:

Fiscal Year	Regular Appropriation	Long Range Appropriation	Total
1951-55, incl.	$1,206,880	$ 896,280	$2,103,160
1956	301,720	146,280	448,000
Total	$1,508,600	$1,042,560	$2,551,160

All wells are drilled on the basis of the recommendations of the U. S. Geologic Survey, and funds are advanced annually to that organization for exploration and well location purposes.

In addition to federally appropriated funds, and in further recognition of the urgent need for stock and domestic water development, the Navajo Tribe has appropriated a total of $1,000,000 for well drilling in the Navajo country since fiscal year 1951. The 1956 Tribal appropriation totals $250,000. The following summary provides information relative to water development as financed by Federal and Tribal appropriations, and in terms of well distribution by Districts and localities:

NAVAJO WELL PROGRAM

District.	Drilled by Tribe		Drilled by Govt. F. Y.		Programmed For F. Y. 1956		Total Wells Completed and Programmed F. Y. 1950-56
	1951-1954	1955	1950-1954	1955	Govt.	Tribe	
1	1	2	11	0	4	..	18
2	2	0	7	0	5	..	14
3	2	1	10	8	..	..	21
4	3	0	8	0	1	..	12
5	1	2	4	4	..	..	11
7	1	0	8	6	..	5	20
8	1	0	6	7	1	..	15
9	2	0	4	0	..	..	6
10	6	0	8	0	..	..	14
11	1	0	4	0	1	1	7
12	2	5	7	..	..	1	15
13	1	0	3	..	..	..	4
14	2	1	3	..	..	..	6
15	1	1	3	..	..	..	5
16	2	0	5	..	..	1	8
17	6	4	7	..	3	2	22
18	3	7	5	..	..	2	17
19	1	0	1	..	2	..	5
Ramah	2	0	1	..	..	2	5
Canyoncito	1	0	2	..	..	2	5
Puertecito	1	0	3	..	..	1	5
					7*	5*	
Totals	42	23	112	25	22	22	246

* Indicates: Pending Feasibility report.

In the past four years the Navajo Tribe has appropriated $1,000,000 to bring stock and domestic water closer to the people of all sections of the Reservation.

The Navajo Tribe budgets annually for the maintenance of a portion of the wells in the Navajo country. In fiscal year 1955, $25,892 was made available for that purpose, and the amount was increased to $40,000 in the Tribal budget for fiscal year 1956.

The sum of $91,000 in federally appropriated funds was allocated for operation and maintenance purposes in fiscal year 1956 and $115,000 in fiscal year 1955.

Range Management: Range management is an activity formerly associated with Forestry, but currently included in the Branch of Land Operations. No Long Range funds are provided for this activity, which is principally concerned with the exercise of Federal responsibility in the protection of the Reservation grazing resource to assure its use on a sustained yield basis. A total of $66,288 was allotted from Regular appropriations to finance this activity in fiscal year 1956.

Range Management personnel worked closely with the Navajo Tribe in the development of the Tribal Grazing Regulations, adopted by the Navajo Tribal Council on January 27, 1956, and cooperate with the District Grazing Committees[1] in the transfer and allocation of grazing permits. The latter are processed and maintained in files at the Subagencies by Range Management personnel.

To provide basic information to the Grazing Committees and to the Bureau of Indian Affairs, Range Management personnel conduct annual range utilization studies, range condition and trend studies, assemble the yearly Reservation livestock inventory, and perform other technical work essential in the establishment of carrying capacities and in the effective management of the range resource.

Extension: Extension work on the Navajo Reservation is financed only from an annual allocation of "regular" funds provided for the operation of the Branch of Land Operations, and receives no assistance under the Long Range Act. For the fiscal year 1956 a total of $135,087 was made available to support the Reservation extension program.

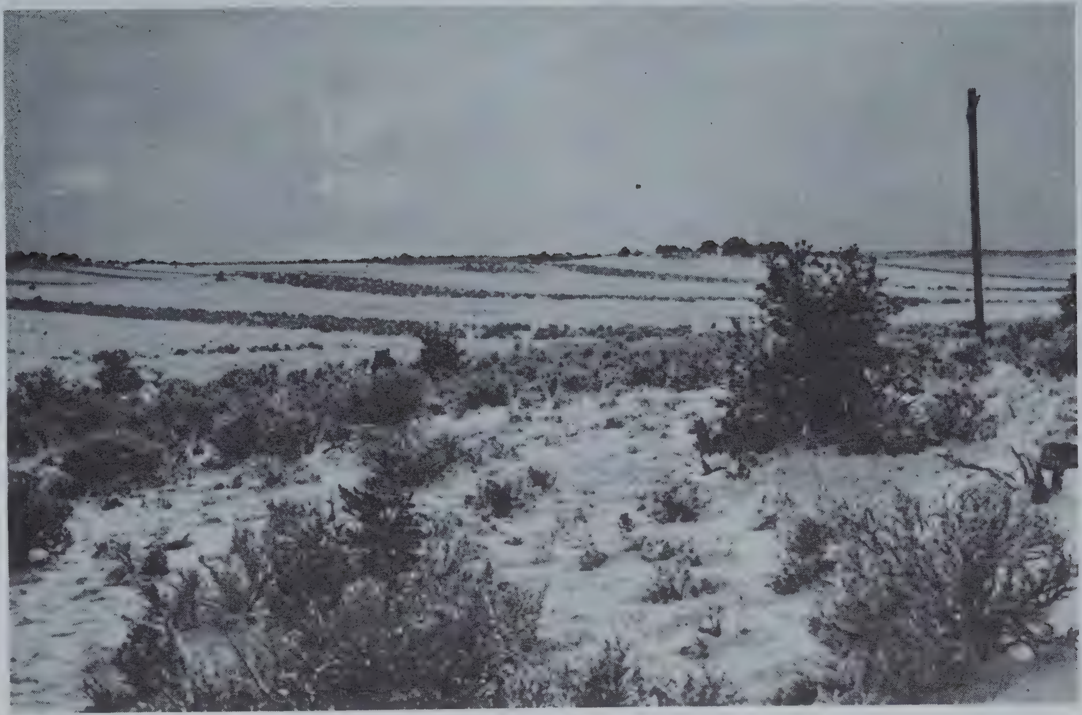
The chief objective of the Extension activity in reference is to improve the agricultural income and the living standards of Navajo farmers and stock raisers through increased production, better methods, disease and pest control, improved quality of breeding stock, and similar media.

The program is essentially educational in nature, and is paralleled to some extent by the County Extension Services maintained for non-Indian communities by the Department of Agriculture and the State Land Grant Colleges. In fact, in keeping with an over-all policy of the Bureau of Indian Affairs aimed at eliminating duplications in services where such are available from other Federal or State agencies, and as an aspect of the Bureau effort toward greater integration of Indian groups with the non-Indian population in the States wherein they reside, plans are under way for the transfer of Bureau Extension Services to the States, by contract, to be thereafter provided by the State Land Grant Colleges and the County Extension Offices.

(1) Established by the Navajo Tribal Council in May, 1953.

The deep gashes cut by water erosion in the Navajo country can be . . .

Repaired and washes can be brought back to productivity through soil conservation work.



Brush has been cleared in broad strips and the clearings planted to grass, thus increasing forage production.

In 1954, Navajo Agency Extension personnel cooperated with the Navajo Tribal Council, the District Grazing Committees, veterinarians from the Agricultural Research Service of the Department of Agriculture and individual stockmen in the vaccination of 430,000 head of Reservation sheep against a serious disease known as Blue Tongue. In 1955 the immunization program was repeated, with the vaccination of 220,000 head. The Navajo Tribal Council budgeted a total of $20,000 in fiscal year 1956 for Blue Tongue, rodent and insect control. The disease is a threat to the sheep raising industry since a serious outbreak might prevent the shipment of lambs to areas and states outside the Reservation, thus cutting off or adversely affecting the income, totalling about a million and a half dollars annually, from the Navajo lamb crop.

The Bureau Extension Service also carries on an educational program for the improvement of the Reservation wool industry, through selective breeding and proper shearing and preparation of fleeces for market. Four herds of breeding rams are maintained on the Reservation, on a self-sustaining basis, financed originally by Federal and Tribal loan funds.

In addition, the Bureau Extension Service provides guidance and supervision in the dipping and spraying of sheep to eliminate parasites; assists in the conduct of organized annual cattle sales; helps in the control of insect and other crop and orchard pests; and advises in pasture management, range improvement, child care, soil improvement, orchard management, poultry raising, cultivation, home sanitation, gardening, weed control, food preservation, sewing, dressmaking, nutrition, etc. A number of 4-H Clubs are active in Navajo communities.

The Navajo Tribal Council formally endorsed transfer of the Bureau Extension Service to other Federal and State agencies, but had not as yet approved contracts to provide for such transfer at the close of 1955.

The Branch of Forestry: The responsibilities of the Bureau of Indian Affairs in the protection and management of the timber and woodland resources of the Navajo Reservation are exercised through the Branch of Forestry, financed in fiscal year 1956 by an allocation of $35,272 of "regular" federally appropriated funds and $69,261 in Tribal appropriations, the latter for fire-presuppression, consultant services, contractual services, equipment and allied purposes.(1) The Branch of Forestry is concerned with fire protection, the control of disease and other forest hazards, and the regulation of the timber cut to assure continuous production and the re-forestation of cut-over areas.

Long Range funds, in conjunction with Tribal appropriations, were used during the period 1950-52 for the development of a master forest management plan to control the harvesting of timber.

The Navajo Tribe is vitally interested in the protection, management and development of the Reservation timber resource, and has provided funds with which to retain the services of timber and sawmill consultants to develop working plans for logging, marketing and manufacturing operations. The extent of Tribal interest in the timber resource is reflected in the fact that, since fiscal year 1951, the Navajo Tribal Council has voted appropriations totalling $253,876 (through fiscal year 1956) for work connected with forestry.

During calendar year 1955, 17,814,520 board feet of ponderosa pine timber was logged on the Fort Defiance Plateau by the Navajo Tribal Sawmill, located at Sawmill, Arizona, and during the same period the mill produced a total of 19,500,000 board feet of lumber. This represents an increase of 3,765,000 board feet logged and 5,041,000 board feet of lumber produced in 1955 over calendar year 1954. The Sawmill is operated by the Navajo Tribe, under supervision by the Bureau of Indian Affairs. The allowable annual cut for the first 25-year cutting cycle is 28 million board feet, log scale basis, and to remove the volume of timber required for proper management, lumber harvesting operations must be doubled.

The value of Navajo forest property including standing timber, range, watershed and recreation can be conservatively estimated at $30,000,000, and between 200,240 Navajo people derive their livelihood from work connected with the management, protection and commercial development of the Reservation timberlands.

The earliest record of a sawmill on the Navajo Reservation dates from 1880, at which time a mill was established for the purpose of cutting lumber for agency, school and mission use at Fort Defiance. This original mill was situated in the area immediately south of Fluted Rock, and logs for the operation were skidded and hauled to the millsite by ox team. The operation continued intermittently until 1907.

During the same period a small semi-portable sawmill was set up at a location northwest of the original mill-site, to provide lumber for the construction of agency buildings at Chinle, Arizona.

Due to the sketchy character of early accounts, it is not known whether the two mills in reference burned or were moved, although it is apparent that water shortages worked a hardship on both operations.

In 1907 a sawmill was built in the Sanostee-Toadlena area to provide construction material for the Shiprock Agency. This mill, or possibly its successor, burned in 1935, and the salvageable equipment was subsequently transferred to the present mill site at Sawmill, Arizona.

Until July 1, 1936, at which time the Navajo Agency Forester assumed operational control, all lumber was produced on advance orders submitted by the Indian Service for construction purposes, and no surplus was produced for commercial purposes. For a time prior to 1936, mill supervision was provided by SCS and CCC-ID personnel. In 1936, production totalled only 1,661,000 board feet with intermittent mill operation due to inadequate financing. In 1938 the Navajo Tribe borrowed $50,000 from the Federal Government to rebuild the old mill at Sawmill, and an additional sum of $165,000 in 1939 and 1940 for new construction and expansion purposes. However, financial problems continued to handicap the Tribe in the mill operation, and it was

(1) Exclusive of $10,00 in funds appropriated under P.L. 110 and made available to the Navajo Agency for control of an infestation of Black Hills Beetle affecting ponderosa pine in the Chuska area.

The Navajo Tribal Sawmill is a thriving Reservation Industry, as modern and well equipped as any mill in the Southwest.

The new uranium mill under construction by the El Paso Natural Gas Co., and Rare Metals, Inc. on the Reservation near Tuba City, Arizona.

not until 1944 that the operation was placed on a self-supporting basis. In the latter year lumber was sold in rough form to an outside firm.

In 1946, after installation of an 8-foot band saw and development of increased boiler capacity, the Tribal mill attained a maximum cut of over 12,000,000 board feet per annum, and stepped into the lumber market to compete with private industry. The mill currently produces nearly 20,000,000 board feet of dressed lumber, both kiln and air-dried, and is a member of the Western Pine Association. Most of the production is marketed in the midwest.

The mill, operating as the Sawmill Enterprise, purchases timber from the Navajo Tribe, paying stumpage in the same manner as other sawmills, and at a price comparable to those paid by purchasers from federal sources (e.g., National Forests).

7. DEVELOPMENT OF INDUSTRIAL AND BUSINESS ENTERPRISES

One of the principal objectives of the Long Range Program was the diversification of Navajo economy to reduce the degree of Tribal dependence on the range resource, and to develop new resources on, as well as off, the Reservation. In 1948 Max M. Drefkoff, Industrial Consultant to the Secretary of the Interior, submitted a revised report to the Commissioner of Indian Affairs, entitled "An Industrial Program for the Navajo Indian Reservation," in which he recommended, among other things, the establishment of a variety of small industries on the Navajo Reservation to utilize available natural resources and provide local employment and training opportunities to Navajo workers.

The Development of Industries and Business Enterprises was incorporated as one of the categories for which financing was authorized, in the total amount of $1,000,000, under the Long Range Act.

An appropriation of $52,000 was made annually for each of the years 1951 through 1954 and an appropriation of $10,000 annually for the fiscal years 1955 and 1956. The 1956 appropriation was provided for use on the Hopi Reservation. Appropriations for the six-year period total $228,000.

Money provided under this section of the Long Range Act are referred to as "grant funds," supplementing loans available from the Revolving Credit Fund and from tribally contributed capital for the establishment of new business undertakings on the Navajo and Hopi Reservations. Such grant funds have been used to help finance special studies, development costs, the cost of pilot and experimental operations, the training of workers, and other extraordinary expenses that could not be borne entirely with borrowed capital.

The El Paso Natural Gas Substation on the Reservation near Tohatchi, New Mexico.

To house its growing organization the Navajo Tribe completed a housing project at Window Rock in 1955.

All of the appropriations for the years 1951 to 1953, in the amount of $156,000, were made available to the Navajo Tribe to assist in establishing tribal business enterprises. Of that amount, $42,000 remains unexpended but available for use by the tribe under a grant agreement executed on June 4, 1953. From the 1954 appropriation, $3,491 was committed for use on the Hopi Reservation and the balance of $48,509 was allowed to lapse. All of the funds available for fiscal years 1955 and 1956 were allocated for use on the Hopi Reservation.

From fiscal year 1951-54 the Tribe established a number of enterprises, many of which were experimental in nature. The latter included several merchandising operations in the form of trading posts, as well as pilot operations involving products of clay, cement, leather, wood and wool. Many of the experimental enterprises proved unfeasible, and were abandoned or sold to private operators; others, such as the Tribal Motel Enterprises, have become thriving businesses. The experiments, although not altogether profitable from the standpoint of monetary gain, have provided valuable basic information which the Tribe can apply in future planning. For example, the pilot projects have revealed the limitations inherent in the proposal made by Mr. Drefkoff that small, localized, Reservation industries should receive the major emphasis in the industrial development program.

The following is a list of Tribal enterprises currently operated by the Tribe:

	Amount of Credit Funds	Federal Grant Funls	Tribally Contributed Capital	Total
Arts and Crafts Guild	$ 10,000	$ 5,000	$	$ 15,000
Cement Products Industry*	96,000	4,000	16,000	116,000
Pinon Mercantile	65,000	10,000	.....	75,000
Ram Herd	9,000	.....	.....	9,000
Shiprock Motel Center	90,000	10,000	.....	100,000
Window Rock Coal Mine	20,000	.....	.....	20,000
Window Rock Motel & Housing	135,175	23,000	.....	158,175
Wingate Village	22,388	1,000	.....	23,388
	$447,563	$53,000	$16,000	$516,563

*Currently under lease to a private operator.

With the employment of a General Business Manager on January 1, 1954, the Navajo Tribe assumed the responsibility for operation of existing tribal enterprises and for the initiation of new enterprises. The Cement Products Enterprise of Shiprock, New Mexico, was leased for operation by a private firm on June 1, 1954. The Pine Springs, Wide Ruins, and Sawmill Mercantile enterprises were sold to private operators in 1955, and the following pilot enterprises were liquidated by action of the Navajo Tribe in 1955: Clay Products Industry, Native Materials Industry, Leather Products Industry, Wood Products Industry and Wool Textile Industry.

Repayment on loans to enterprises, including those liquidated during the year, totalled $113,395.56 aplied to principal and $29,690.30 applied on interest.

In accordance with the agreement of February 20, 1953, between the Tribe and the Bureau,(1) a Business Management Committee was appointed on August 8, 1953. Membership of the Committee consists of three members of the Navajo Tribe, two members from outside the Tribe and the Indian Bureau, and two ex-officio members from the staff of the General Superintendent of the Navajo Agency.

When Commissioner Glenn L. Emmons took charge of the Bureau of Indian Affairs in 1953 he recommended that major, existing industrial operators be invited or induced to establish plants on and about Indian Reservations to thus utilize the human resource potential of the Navajo and other Tribes, and provide payrolls and employment opportunities for Indian workers. The experience of the Navajo Tribe in the development of pilot industrial and commercial enterprises on the Reservation had convinced Tribal leaders generally of the limitations inherent in approaching the development of an industrial program on the basis of their own initiative and with their own capital exclusively. The wisdom of an approach based upon collaboration with peripheral communities to attract experienced, established industrial operators to the Reservation area became apparent to the Tribe and during the latter part of 1955, the Navajo Tribal Council adopted two resolutions aimed at the creation of Navajo payrolls through the development of industries on and about the Reservation.

Resolution No. CO-40-55, adopted on October 20, 1955, directed the Chairman of the Navajo Tribal Council to advise the Chambers of Commerce in the towns situated along the perimeter of the Reservation of the willingness of the Navajo Tribe to participate with them in programs of industrial development wherever such industries will create payrolls for Navajos. Tribal participation could include provision (a) of plant facilities for prospective industrial operators and (b) of training for Navajo workers.

Resolution No. CD-44-55, adopted on December 8, 1955, went a step further, amending the Navajo Tribal Budget for fiscal year 1956 to include an additional sum of $300,000 to be expended by the Chairman with the approval of the Advisory Committee for purposes of industrial development anywhere in Arizona, New Mexico, or Utah, on or off the Navajo Reservation, under conditions that will provide reasonable assurance of substantial employment opportunities for Navajo Indians. The Tribal Council authorized expenditure of the appropriation either directly by the Tribe or through grants to Federal, State, Municipal, or private agencies, to complete a census or survey of potential Navajo workers and catalog their skills; to establish or aid in the training of Navajo workers; to purchase or otherwise provide plant sites and facilities; to publicize industrial development possibilities; to conduct other types of preliminary surveys deemed necessary by the Chairman and the Advisory Committee to aid or encourage industrial development in the States named under conditions that will provide reasonable assurance of substantial employment opportunities for Navajo Indians, and for other purposes.

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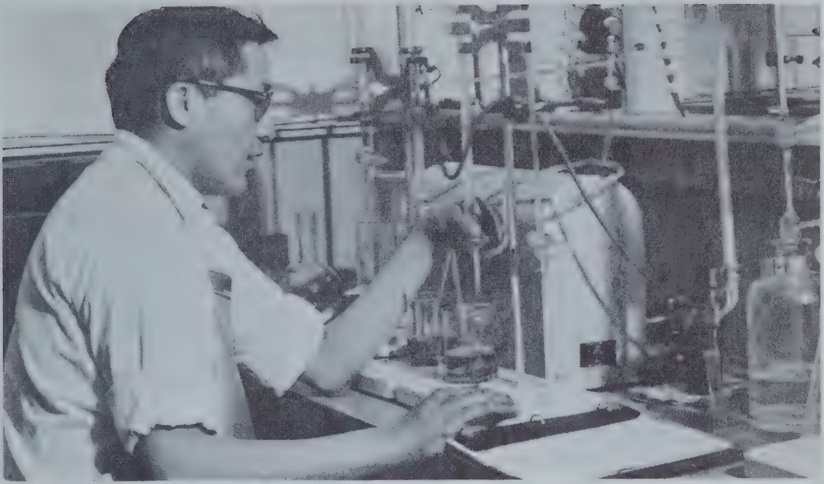
(1) Entitled "Agreement Between the Navajo Tribe of Indians and the Bureau of Indian Affairs Regarding the Establishment and Operation of Tribal Business Enterprises." The Committee in reference is charged with the responsibility for reviewing all proposals for new Tribal Enterprises and the operational status of existing Enterprises to recommend modification, expansion, etc.



The Kerr-McGee Uranium Mill at Shiprock employs many Navajos, including young men like Kayah David shown in the laboratory.

SHIPROCK BRANCH
THE FIRST NATIONAL BANK
OF FARMINGTON

The new Bank, completed in 1955 at Shiprock, is the first such business on the Reservation.

The Stanford Research Institute of Palo Alto, California, has completed a survey of the Tourist Potential on the Navajo Reservation for the purpose of determining the feasibility of expanding the two motels presently operated by the Tribe at Shiprock, New Mexico and Window Rock, Arizona, and the construction of additional motels at various other points within the Reservation.

Thus, the present policy of the Navajo Tribe is to embark on strictly Tribal enterprises only after careful study and fact-finding, and to emphasize major industrial developments cooperatively with non-Indian communities.

8. RESETTLEMENT ON THE COLORADO RIVER IRRIGATION PROJECT

The Colorado River Indian Reservation, located on the east side of the Colorado River, south of Parker Dam in western Arizona, affords an excellent opportunity for Navajo--Hopi resettlement purposes. The Reservation was established in March of 1865 by Act of Congress for "the Indians of said river and its tributaries," and construction of the first irrigation canal began there in 1867, financed by a federal appropriation of $50,000. In subsequent years small additional appropriations were made, culminating in 1935 with Congressional action that authorized construction of the Headgate Rock Dam across the Colorado River at a cost of $4,632,775.

On February 3, 1945, the Colorado Riber Tribal Council adopted Ordinance 5, authorizing settlement of the Southern Reserve portion of the Reservation by other Indians of the Colorado River and its tributaries, and the first such settlers arrived there on September 1, 1945, in the person of 16 Hopi families.

Long Range planning (the Krug Report) looked to the development of the Colorado River Reservation to its full potential of about 100,000 acres of irrigated farm land, of which 50,000 acres would be set aside for colonization by Navajos and Hopis. On the basis of 40 acres per family, the total area was believed to be capable of supporting a total of 2,000 families, of which half would be Navajo. The Navajo share of the expense of subjugation, reclamation and engineering developments was placed at $5,750,000, the amount which was subsequently authorized in the Long Range Act.

To date, a total of $2,939,750 has been appropriated under the Long Range authorization, including fiscal years 1951-56, with which 11,950 acres of land in the Southern Reserve had been developed at the close of fiscal year 1954 and settled by 111 Navajo and Hopi colonists. However, the acreage under irrigation is only a fraction of the total irrigable area, and the terms of the Santa Fe Compact protect the water rights of the Colorado River Reservation only to 1962. A major problem at present is to provide for the development of the entire area by that date through increased federal appropriations, improvement leases and by other expedients.

With modern equipment and farming methods Navajo and Hopi . . .

Colonists on the Colorado River Reservation raise good crops of cotton, grain and forage.

In addition to problems of development, there exists a serious problem of land tenure, especially since the Colorado River Tribe has repudiated Ordinance 5, reversing its decision to permit settlement of a portion of the Reservation by other Indians of the Colorado River and its tributaries. This repudiation was not accepted by the Secretary of the Interior, although a question has arisen concerning the beneficial ownership of the lands on the Colorado River Reservation.

A joint committee, composed of representatives of the Colorado River Agency, the Colorado River Reservation colonists, the Navajo Tribal Council and the Navajo Agency presently function as a screening board in the selection of new colonists. Every effort is being made to select the best possible candidates, and every effort is being made to solve problems involving training and guidance of the settlers, credit, land tenure, etc.

Cost of production and income are summarized for 1952-54 herewith:

Year	Gross Income	Estimated Cost Production	Estimated Net Income	Average Net Income per Family
1952	$772,924	$269,541	$503,383	$3,785
1953	782,381	383,076	399,305	3,144
1954	597,122	292,590	304,532	2,864

In the above summary, subsistence livestock, garden produce and other crops consumed at home are excluded; only cash income from cotton, alfalfa, grain, winter pasture and livestock are included.

Cash income is not great, but the living standards of the colonists are much improved over the average Navajo Reservation standards. Food is more plentiful, housing is far superior, and educational opportunities are available for the children. Taking into consideration the fact that few if any of the colonists have had adequate previous experience and training in the complex techniques of irrigation farming, their record is good, and with experience their income should increase materially.

It was intended, in February of 1955, to select seven new colonists from more than 300 applications on file, for early assignments on newly developed farmland at Colorado River. However, lack of capital and experience in irrigation agriculture, insecure land tenure, and uncertainty of crop returns from alfalfa due to an infestation of spotted alfalfa aphid, resulted in cancellation of the plan.

It was decided by the Bureau of Indian Affairs to concentrate all efforts on the completion, by September 1, 1958, of soil and strata surveys on the Colorado River Reservation Development Area, and to hold in abeyance further subjugation through contract or development leases pending completion of the survey.

9. SURVEYS AND STUDIES

A total of $500,000 was authorized for appropriation by the Long Range Act for the purpose of conducting surveys and studies to determine the quality, quantity and nature of Reservation resources, both natural and human. To date, through fiscal year 1956, a total of $401,875 has been made available for the purposes summarized below:

PURPOSE	1951	1952	1953	1954	1955	1956	Totals
Cadastral Survey	$15,545	$ 1,000	$	$	$	$	$ 16,545
Economic Development	.....	10,000	......	......	.....	.....	10,000
Topographic Survey	.....	3,000	......	......	.....	.....	3,000
Timber Survey	.....	20,000	500	......	.....	.....	20,500
Ground Water Study	.....	10,500	30,700	20,000	15,510	.....	76,710
Mineral Resources Survey	.....	31,500	49,000	50,000	.....	.....	130,500
Mineral Resources Survey	.....	40,000	27,000	......	.....	.....	67,000
Lapse	.....	9,000	......	6,600	.....	.....	15,600
Geologic Mapping	.....	......	17,500	20,000	2,000	15,000	54,500
Wool Scouring Study	.....	......	300	......	.....	.....	300
Inheritance Record Study	.....	......	......	4,710	.....	.....	4,710
Helium Plant Irrigation Project Study	.....	......	......	......	.....	2,000	2,000
Miscellaneous Studies	.....	......	......	......	.....	510	510
TOTALS	$15,545	$125,000	$125,000	$101,310	$17,510	$17,510	$401,875

Most of the survey and study projects in reference were carried out by contract with the U. S. Geologic Survey, the Universities of Arizona and New Mexico, and other institutions outside the Bureau of Indian Affairs. Development of a plan of operation for 1200 acres of newly developed irrigated farm land on the Hogback Project near the Helium plant (Shiprock, New Mexico) was contracted to the Western Farm Management Company of Phoenix, Arizona, and was completed in 1955.

10. OFF-RESERVATION PLACEMENT & RELOCATION

For many years prior to the 1930's the Navajo people were almost exclusively dependent upon Reservation agricultural resources for a livelihood, and Navajo culture was closely adapted to the requirements of an economy based on stock raising and farming. With the advent of stock reduction and the various public works projects on the Reservation during the depression period, many Navajos were introduced to wage work for the first time in their lives. Subsequently, after the outbreak of World War II, large numbers of Navajos were recruited to meet labor shortages in the mines, mills and other wartime industries as well as on the farms in Arizona, New Mexico and surrounding states.

The introduction of wage work, coupled with the growing inadequacy of Reservation agricultural resources as an exclusive basis for support of the expanding population, led to a series of important cultural changes reflecting the development of a new economic pattern by the Navajo Tribe. Total dependence upon Reservation resources gave way to partial dependence on that source of livelihood and partial dependence upon wage-earning, largely in the form of seasonal off-Reservation work. Although some families still remain **totally** dependent upon agricultural resources at home, and **some** have adopted permanent employment outside the Navajo country as a basis for livelihood, the majority have adopted the pattern based upon partial dependence on both sources of income, continuing to look upon the Reservation as "home" and as a base of operations.

So important had wage work in wartime industries and other employment opportunities become as determining factors in the Navajo economic system by the end of World War II that the sudden closure of plants and mines and the decline or slump in other work precipitated an economic crisis. For a time the Reservation resource appeared to offer the only hope of livelihood for a majority of the population. Their plight was genuine and the American public, through the press and radio, demanded that something be done. The wartime record of the Navajo had demonstrated their adaptability to various types of employment, and a demand arose that the Federal Government take immediate action to assist the Navajo people in reestablishing themselves as wage-earners.

Accordingly, in late December of 1947, Congress appropriated $1,500,000 to support a program of Recruitment and Welfare on the Navajo and Hopi Indian Reservations. A few months later, in March of 1948, a recruitment and placement program was in progress, under the direction of the Navajo Agency Branch of Welfare and Placement. The job finding and placement activity was carried out through the medium of eight sub-offices strategically located throughout the Navajo-Hopi country to facilitate contact with the Indian people, and through four offices located at Denver, Los Angeles, Phoenix and Salt Lake City. The latter served as contact points with employers in the development of work opportunities, as bases for the maintenance of labor and community relations and in other capacities in connection with the work program outside the Reservation area.

At the same time, Long Range planning took into account the fact that wage work had become an important aspect of Navajo economy, and the Long Range Act authorized the appropriation of $3,500,000 to continue and expand the Placement and Relocation Program. However, the only money so far made available under this authorization was the $194,600 appropriated in 1951 for the construction of a Community Indian Center and Clinic to serve the needs of transient Indians through Gallup, New Mexico. Gallup was a center of early recruiment activity with relation to Navajos leaving from and returning to the Reservation.

The Placement program for the Navajo and Hopi Tribes continued under operation by the Bureau of Indian Affairs until after July 25, 1950, at which time a national

Children care for one another while parents work.

Mornings are cold in the cotton fields of Southern Arizona.

SEASONAL EMPLOYMENT

Railroad section work remains a cornerstone of Navajo economy.

Navajos find employment in the vegetable packing sheds as well as in the fields.

agreement was executed between the latter and the Bureau of Employment Security, providing for extension of full employment service facilities to Reservation Indians by the State Employment Services. The transfer was made in keeping with Bureau policy aimed at elimination of special services provided by the Bureau of Indian Affairs when the same services are available from other agencies, and became effective with regard to the Navajo and Hopi after December 29, 1952 at which time agreements were concluded with the Arizona and New Mexico State Employment Services.

Navajo Placement(1) — 1955.

The Arizona State Employment Service currently operates four suboffices on the Navajo Reservation, located at Ganado, Chinle, Tuba City and Kayenta, one at Keams Canyon serving both Navajos and Hopis, and local offices in Winslow and Flagstaff. In addition, each Interviewer-Interpreter in the field has a station wagon or truck equipped with a short wave radio transmitter-receiver to expedite communications and the filling of orders received by the State office. In emergencies, this system of communications has proven very valuable, especially in the recruitment of forest firefighters.

Insofar as it is possible to identify and estimate the number of Navajos from the records, the following placements were made during 1955 by the Arizona State Employment Service, either directly or through referral to another State Office:

Type of Work	Number of Placements
Agricultural	6,664
Non-agricultural	3,008
Total	9,672

In addition, the Arizona Service accepted 1,224 applications for work from Navajos, handled 188 employment counseling cases, and gave 32 general aptitude test batteries to Navajo job-seekers, the latter largely to high school students at St. Michaels and Ganado, Arizona.

The New Mexico State Employment Service indicates that the following Navajo placements were made through their offices at Gallup and Farmington, New Mexico, during 1955:

Type of Work	Number of Placements
Agricultural	2,175
Non-Agricultural	1,184
Total	3,359

(1) Information in this connection was very kindly provided by Messrs. James A. Rork and M. R. Salazar, Directors of the Arizona and New Mexico State Employment Services, respectively, and by Mr. E. F. Rentfrow, District Manager, Railroad Retirement Board, Gallup, New Mexico.

It is interesting to note that, in 1955, agricultural industries outside the State of New Mexico requested 2,390 Navajo workers in total, and 1,876 Navajos were recruited and sent to meet that labor demand; in 1954 there were 2,440 requests and 2,022 workers were sent. It would thus appear that the labor demand continues to exceed the supply, although there was a slight decline in the total number of requests. The New Mexico State Employment Service points out the fact that the number of workers hired in the cultivation and harvest of sugar beets and other crops will show a steady annual decrease as mechanization of such agricultural industries increases. However, they further point to the fact that, in 1955, 1,184 Navajos were placed in non-agricultural work, representing an increase of 418, or 35%, in such placements over the preceding year. Lack of salable skills remains the chief deterrent to ready local employment acceptance of Navajo workers, but as new skills are gained through education and training the ability of the Navajo to penetrate into diversified occupations increases.

The total number of placements of Navajos in all types of work by the two State Employment Services in reference stands at 13,031 for the year 1955.

In addition, information available from the Railroad Retirement Board indicates that 6,571 Navajos were employed by the railroads in 1955, representing an increase in such employment of 2,057 over 1954, and bringing total placements to an estimated 19,602. Wages paid to Navajo workers in 1955 by the railroad industry were estimated at a total of $8,005,317 which, coupled with $2,668,439 paid in Railroad Compensation during the past compensation year would indicate a total estimated income from Railroad work at about $10,673,756.

The railroad industry began the mass recruiting of Navajos late in 1942 in an effort to meet manpower shortages occasioned by wartime conditions, and although for a number of years previously Indians had worked intermittently in various capacities, the number so employed was not great. Since that time railroad employers have come to prize the Indian highly for his skill, his willingness and his emotional stability, and the importance of this type of employment to the Navajo is evident in the fact that, over the past 12 years, the railroad industry has paid Navajo labor an average of $8,000,000 annually. In addition, there has been a yearly average of $1,000,000 paid in sickness and unemployment insurance benefits, bringing the total revenue from railroad work during the period 1944-56 to an estimated $100,000,000. It is noteworthy that many Navajo employees have advanced to skilled jobs over the years, and they can be found employed as machinists, pipefitters, sheet-metal workers, car inspectors(Diesel mechanics, etc.(1)

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(1) The information in this paragraph was taken from an address given before the Transportation Club Luncheon on November 8, 1955, at Albuquerque, New Mexico, by Mr. L. Hubbell Parker, Santa Fe Railway Employment Supervisor.

The data at hand are not adequate for the development of an **accurate** estimate of the total income accruing to Reservation Navajos in 1955 from wage work, Welfare benefits, Social Security payments, Railroad Unemployment Compensation, Reservation agriculture and mining, etc. However, study of available information indicates that, of the total income supporting the present-day Reservation economy, at least **two-thirds** is derived from sources unrelated to Reservation agriculture, stockraising, mining or other local resources, with wage work of various types in a dominant position as a source of livelihood.

Available information with regard to the Reservation economy points to an estimated income well in excess of $30,000,000 in 1955 or, assuming a population of about 80,000 Navajos living in partial dependence on Reservation resources, an average per capita income of about $450 and an average family income of about $2,250. These estimates are based on the figures provided below, which we believe to be conservative, and which exclude relocatees, Navajo employees in off-Reservation schools, and others permanently employed in industries located outside the States of Arizona and New Mexico. No effort has been made to compute the value of educational, medical, and other services provided on the Reservation by the Federal Government, which are supported outside the Reservation through taxation. Even if the latter were included, however, the average per capita income accruing to Reservation Navajos would fall short of the comparable average figure of $1,473 with relation to the general population of New Mexico, and the $1,770 average for Continental United States. Most of the New Mexico portion of the Navajo country lies within McKinley and San Juan counties. The 1950 census showed the total population of McKinley County at 23,744, of which 12,331 or 51.9% were listed as Indian (Navajo and Zuni), and that of San Juan County at 8,799, of which 8,431 or 95.8% were Indian (Navajo and Ute). The average per capita income of McKinley County is placed at $970 and that of San Juan County at $1,492 (the latter increase owing largely to irrigation farming, the oil and gas industry, etc., along the San Juan River).(1) Income levels among Navajo families no doubt vary greatly, and it is unfortunate that information is not available upon which to base an estimated median figure, or with which to classify the total Navajo population by income groups.

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(1) Per capita income, State of New Mexico — $1,473. See Table I: Income by County — New Mexico, 1954, New Mexico Business, publ. by Bureau of Business Research, University of New Mexico, Albuquerque, New Mexico. The per capita income figure for Continental United States relates to the calendar year 1954, as given in the World Almanac, 1956 Edition, published by the New York World Telegram. The same source shows average per capita income for New Mexico at $1,387 and that for Arizona at $1,582 for the year 1954. Although the population of San Juan County in 1950 was predominantly Navajo, it has no doubt undergone great change since that time with the oil and gas boom in the San Juan Basin area, and the average per capita income figure provided relates to 1954.

ESTIMATED INCOME — NAVAJO

1955

1.	Seasonal Agricultural Employment(1)	$ 2,000,000
2.	Non-agricultural off-Reservation Employment through the State Employment Services(2)	3,311,680
3.	Railroad Work(3)	8,005,317
4.	Railroad Unemployment Compensation(3)	2,668,439
5.	Government Defense Projects(4)	2,618,394
6.	Self-placed, off-Reservation(5)	1,000,000
7.	Gallup Area-Navajo Agency Payroll(6)	3,476,307
8.	Navajo Tribal Payroll (including Sawmill)(7)	1,399,731
9.	Reservation Farming and Stock raising(8)	4,000,000
10.	Reservation Mining(9)	1,772,560
11.	Social Security and Welfare(10)	2,335,185
12.	Old Age and Survivors Benefits(11)	256,436
13.	Miscellaneous(12)	2,530,000
	Estimated Total	$35,374,049

(1) It is impossible, on the basis of available information, to develop an accurate estimate of income accruing to Navajos from off-Reservation seasonal agricultural work secured through the State Employment Services or otherwise. Study of available data would seem to indicate about $2,000,000 was derived, in 1955, from placements made in this type of employment by the Employment Services. Study of the following data and considerations led to the arbitrary estimate given above:

(a) In 1950 the then Window Rock Area Branch of Placement and Welfare estimated income from seasonal off-Reservation agricultural work at $2,000,000, with 6,655 placements. This would indicate an average income of approximately $300 per placement, which may have been too high.

(b) In 1955 the State Employment Services of Arizona and New Mexico reported a total of 8,839 placements of Navajos in seasonal agriculture. All members of a family who are 14 or more years of age are counted as placements. Children under 14 are not so counted, although many are employed along with other family members, especially during the summer months. In 1950, of a group of 2,500 workers in agriculture studied by the Window Rock Branch of Placement and Welfare, approximately 12% were between the ages of 6-14 years. If the same proportion obtained with regard to the 8,839 placements of persons 14 years or older made in 1955, there could have been about 1,000 workers in addition to those reported as placements by the States.

(c) Wages earned in seasonal agriculture appear to vary to an extreme degree. In "The U and I Cultivator" for March, 1956, published by the Utah-Idaho Sugar Company, there was an article entitled "Why Mechanical Thinning?" by W. F. Bergeson. The author reviewed the growing mechanization of the sugar beet industry, and the decreasing number of people willing to do the "stoop and crawl" labor involved in thinning the beets. "It is easy to see why these people aren't anxious to continue to do this "stoop and crawl" work, when we examine their average earnings during this 2 to 2½ months period in the beet fields," Mr. Bergeson stated. He then pointed out that, at $13.00 per acre for beet thinning, the average Indian worker earned only $87.62. (Permission was granted by the Utah-Idaho Sugar Co. to quote from the article in reference.)

On the other hand a spokesman for the carrot industry in the Grants-Bluewater area of New Mexico estimated gross earnings of 2,090 "regular workers" during a 60 day season at $636,112.00, or an average individual income of about $304. This excludes occasional workers, employed only for a day or two. On the Stanley-Card farm alone 548 such occasional workers were employed during the 1955 season, averaging $20.52 each. (Information provided in a letter dated April 13, 1956, by Mr. A. R. Card of Dean Stanley and A. R. Card, Vegetable Growers and Packers, Grants, New Mexico.)

The average of the two extremes would be roughly $200 per placement which, if applied to the 8,839 reported placements, would aggregate $1,767,800, excluding the earnings of workers under 14 years.

On the basis of an average of $300 per placement as reported in 1950 by the then Navajo Area Branch of Placement and Welfare, total income from seasonal agriculture would be indicated at approximately $2,651,700 in 1955.

We have used $2,000,000 in the table above, and will attempt to develop more accurate information in the coming year.

(2) In 1951, the then Window Rock Area Branch of Placement and Welfare estimated total income from temporary and seasonal placements in non-agricultural work at $2,220,000, including lumbering, mining, construction, merchandising and other industries exclusive of the railroads, with 2,802 such placements. Average individual earnings from this type of work were thus indicated at $790 per placement in 1950.

In 1955, the State Employment Services of Arizona and New Mexico reported the placement of 4,192 Navajos in non-agricultural work, exclusive of the Railroads. Assuming that the average of $790 per placement is reasonably accurate, the total income from non-agricultural jobs was estimated at $3,3111,680 in 1955.

(3) Total income paid to Navajos in 1955 by the Railroad industry, both from wages and from unemployment compensation was provided by the Railroad Retirement Board.

(4) Approximately 840 Navajos are employed by Ordinance Depots and other Defense or Military Projects. The figure given representing total income in 1955 from this type of employment is a very close estimate since all but one of the employing agencies in reference provided information from their own records.

(5) The figure provided is arbitrary. There are indications that, in certain types of seasonal, off-Reservation work, many Navajos return year after year without referral by the State Employment Services. In one instance involving a major agricultural industry, only 20% of the workers, in 1955, came through the Employment Service. The remaining 80%, totaling over 1,600 persons, returned of their own accord and were hired directly by the employers, as they have been in past years. It may therefore be reasonable to assume that twice this number of Navajos placed themselves in seasonal jobs of all types in 1955, and that income earned by this group approximated $1,000,000.

(6) This figure was based on a rapid survey of employment records by the Gallup Area Branch of Personnel, disclosing the fact that approximately 1,100 Navajos are employed in regular Classified Civil Service or in Wage Board positions by the Gallup Area Office and the Navajo Agency. Estimated income from this source is reasonably accurate and conservative.

(7) This figure was provided by the Navajo Tribe, and includes money paid to Tribal employees, Council Delegates, Tribal Judges, Tribal Grazing Committee members, Navajos employed in the Navajo Tribal Sawmill, Navajo police, etc. The figure is considered very accurate.

(8) This figure is based on estimated income derived in past years from Reservation agriculture and stock raising, and includes not only cash proceeds from the sale of agricultural products, but also the estimated value of such products consumed at home. It appears to be a reasonable estimate.

(9) The figure provided was estimated by the Tribal Mining Office on the basis of approximately 600 Navajos employed in mines and mills on the Navajo Reservation, with average earnings per employee of about $56.00 per week, plus an estimated average income of $80.00 per month each in royalties from 317 assignments of mining permits. The average hourly wage paid to Navajos employed in Reservation mining operations is $1.35 per hour, with time and a half over 40 hours.

(10) The figure provided for Social Security and Welfare represents the amount paid in 1955 by the State Departments of Public Welfare of Arizona, New Mexico and Utah for categorical assistance (aid to the Needy Blind, aid to Dependent Children, aid to the Aged) under the Social Security Program, and the amount paid in General Assistance benefits by the Navajo Agency Branch of Welfare, as provided by the States and the Bureau of Indian Affairs. It should be a close estimate.

(11) This figure is an estimate in part from information provided by the Arizona District Office of the Social Security Administration. The latter estimated payments of approximately $15,600 per month to Arizona Navajos. The New Mexico Office was unable to provide an estimate. However about 38% of the total Navajo population resides in New Mexico. An estimate was included for the latter State based on the assumption that the payments might be proportionate to the population. About 60% of the total Navajo population is resident in Arizona.

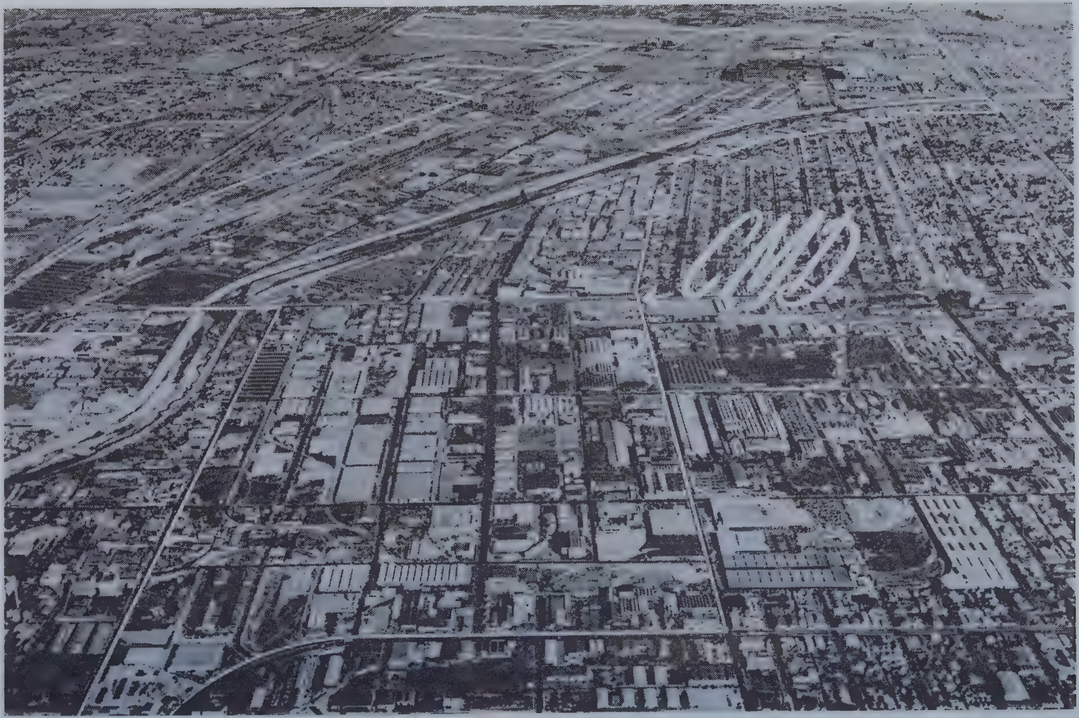
(12) This figure includes an estimated income of $2,000,000 from arts and crafts production, including weaving, silversmithing and other crafts work, and is based upon the estimate developed by the Merchants Bank of Gallup, New Mexico ,published May 1, 1954, under the title "An Economic Survey of Gallup, New Mexico." It further includes the value of clothing distributed to school children by the Navajo Tribe in 1955 to a total of $350,000, and $180,000 in Tribal funds prorated among all election communities during 1955 for emergency use.

Off-Reservation Relocation..

As we pointed out in preceding paragraphs, temporary off-Reservation employment constitutes an important aspect of present-day Navajo economy, and the majority of the population have made the cultural adjustments necessary to incorporate seasonal emigration from the Reservation into the economic pattern in such a manner that off-Reservation wage earning and income from Reservation resources stand in a complementary relationship to each other, permitting the greater part of the Navajo people to continue to live on the Reservation during a large part of each year.

However, since the early years of World War II, an ever-increasing number of Navajos have settled permanently in areas and localities remote from the Reservation to make their livelihood from industrial employment. These include acculturated, educated people whose cultural values have undergone changes to approximate or identify themselves with those of the non-Navajo society outside the Reservation; persons without Reservation resources, and persons who for other reasons or owing to a combination of the foregoing have elected to seek greater economic security in permanent types of wage employment. Industries involved include mines, such as those at Morenci, Arizona, Bingham Canyon, Utah, and Rico Colorado; a variety of plants and factories on the west coast; the military installations at Fort Wingate, New Mexico, Bellemont, Arizona, Tooele, Utah, and Barstow, California; permanent section work on various railroads, etc. The number of Navajos settled more or less permanently in the Los Angeles area, through the voluntary Relocation Program or independently, is estimated in excess of 2,000.

Education, vocational training and off-Reservation living experience associated with the present expanded educational program and with seasonal employment pro-



Reproduced by courtesy of the Central Manufacturing District, Inc., Vernon California.

An estimated 2,000 Navajos are employed in the Los Angeles Area, many within the Central Manufacturing District depicted above in an aerial photograph by William A. Garnett.

duce not only salable skills on the part of an ever-increasing proportion of the Navajo population, but also encourage the development of new social and economic values quite distinct in nature and direction from those of traditional Navajo society.

The current economic pattern based in large part upon seasonal employment is a precarious one, and it is amply apparent that the Reservation agricultural resource is incapable of supporting the total Navajo population without supplemental income. A sudden drastic decline in railroad employment demand, or serious reduction in the demand for hand labor in agriculture as a result of mechanization of that industry could precipitate an economic crisis almost overnight when such a large proportion of the population is so heavily dependent upon those sources of wage income to supplement Reservation resources. On the other hand, barring the development of a national economic crisis, permanent industrial employment offers greater security and reduces the number of persons dependent, in toto or in part, on the Reservation agricultural base.

To facilitate voluntary permanent resettlement in areas remote from the Reservation, and to assist settlers in locating permanent industrial employment at such locations, the Bureau of Indian Affairs, in 1952, developed a Relocation Program to meet the needs of Navajo and other Indians and to further the objectives of economic security in reference above.

The Relocation Program is a joint effort shared by local Reservation staffs and the four Field Relocation Offices located in Los Angeles and San Francisco, California, Denver, Colorado, and Chicago, Illinois. The local Reservation organizations function as initial contact points with Indians seeking information or relocation opportunities, counsel with applicants and assist them to prepare for relocation,(1) and render financial assistance in transporting relocatees, their families and household goods to the point of relocation. Without such basic aid, many persons, able and desirous of leaving the Reservation would be unable to do so, or would be seriously handicapped in their efforts to move themselves and their households to a strange destination without assurance of employment after their arrival.

The Navajo Agency Branch of Relocation operates with a staff of 13 employees, from offices strategically located to serve the entire Navajo country at Window Rock, Crownpoint, Shiprock, Chinle, Fort Defiance and Tuba City. No Long Range appropriations have so far been made available for Relocation from the applicable $3,500,000 authorization under the Long Range Act, and the program is carried on with a total allocation of approximately $153,586 in Regular funds for fiscal year 1956. Of this total, $87,171 is designated for use in paying the expenses of relocatees and their families in traveling to their destinations; and for initial subsistence at the point of relocation; the remainder is used to defray the operating costs on the Navajo Reservation. The total in funds thus available in fiscal year 1956 compares with a total of $62,095 in fiscal year 1955.

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(1) To be eligible for relocation candidates must be English speaking, literate, in good health, physically able to work, etc.

Interior view of the ultra-modern Norris-Thermador Corporation plant at Vernon, California.
A number of Navajo relocatees are employed in these pleasant and modern surroundings.
(Photo by courtesy of Norris-Thermador Corp.)

After relocatees arrive at their destination, the personnel of the corresponding Field Relocation Office take over the responsibility for locating housing, employment, etc. Of the latter agencies the Field Relocation Office at Los Angeles is the largest and oldest, currently averaging about 150 relocatee referrals and 50 "drop-ins"(1) per month from the various Indian Reservations. The handling of relocatees is a complex matter requiring close coordination of effort on the part of all concerned at both the Reservation and Field Office levels. A brief outline describing the Relocation machinery in action may provide a better basis for understanding the program.

After counseling with the applicant and processing of the necessary papers by the Reservation Relocation Office, and upon receipt of information that the Field Relocation Office has made preparations to receive him, a date of departure is established. With regard to the procedure established in Los Angeles, the relocatee is instructed to leave baggage at the Railway station and proceed to the Relocation Office, the address of which was provided him at the time of his departure. At the latter he is received, and is given necessary orientation. Housing requirements, job opportunities, transportation, work preferences and skills, and many similar subjects are discussed with the relocatee by the Field Office staff. A bank account is established to defray subsistence expenses for him and his family until he has been placed, in an amount ranging from $90 for a single person to as much as $400 for a large family. Checks drawn on the account must be co-signed by a member of the Relocation staff and, if required, the fund so provided may be used to purchase necessary clothing, as well as to pay the cost of food, rental, fuel, etc.

Single persons are usually provided temporary housing in a hotel or rooming house, and families are temporarily quartered in apartments equipped with cooking facilities. The Bureau staff is fully cognizant of the fact that resettlement from the Reservation is a "big adventure," and does not take it for granted that the relocatee and his family are accustomed to using telephones, buses, super markets, and all the many unfamiliar services commonly available in metropolitan areas. Families are shown how to dial the telephone number of the Relocation Office, they are taken to the nearest super market and, if necessary, taught to shop, and they are made familiar with the streets, car lines, bus lines, and other such services.

A Health Nurse from the Visiting Nurses Association visits families as soon as they are settled to tell them where medical services are available in case of sickness, and how to proceed in getting medical attention.

Following preliminary arrangements, an appointment is made with the relocatee at which time those members of the Relocation staff who are concerned with employment matters discuss his placement in an available job. The relocatee is ultimately provided with a letter of introduction to an employer who has previously requested a referral, and usually is sent on his own initiative to apply for the job opening. It is the responsibility of the relocatee to "sell himself" to the prospective employer. Seldom are more than 2-3 days required to locate a job.

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(1) The term "drop-in" is used to describe persons who go on their own resources to Los Angeles to seek permanent employment, without assistance by an Agency Relocation Office.

After the relocatee has secured employment, he is assisted by Relocation personnel to locate permanent housing commensurate with his requirements and within commuting distance of the plant at which he will work. In many instances, private housing can be secured on a rental basis, in the form of houses or apartments; in other instances public housing is available. Regardless of type, the relocatee is assisted in finding quarters of good quality at a fair rental, and relocatees are not housed in slums or substandard facilities. During the month of October, 1955, alone, the Los Angeles Relocation Office handled 304 housing cases with relation to relocatees, a fact which provides some indication of the magnitude of this single aspect of the total operation. During the early part of the relocation period, the Field Relocation Officers make scheduled visits to the relocatee's home to insure that the initial adjustment of the family will be as easy as possible.

In most instances Indian mothers are given assistance by members of the Parent Teachers Association in placing their children in school, especially in those instances where the mother is unable to speak English. Other civic and religious organizations, as well as Relocation personnel, assist relocatees in finding churches, places of recreation, and the like. Indian families appear to be generally well accepted by the communities to which they move, as evidenced by the fact that, at Culver City, California each member of the local Campfire Girl organization has "adopted" a little "Indian sister." At Inglewood, the President of the local PTA is a Pueblo Indian woman. Indian relocatees and members of their families are welcomed to membership in the Boy Scouts, Girl Scouts, municipal baseball teams, etc.

The Bureau's Relocation Program meets a real economic and social need and is gaining impetus every year, as more and more Indians decide to seek new opportunities for themselves and their families independently of inadequate Reservation resources. In 1955, nearly 3,500 American Indians left their Reservations to resettle in one of the four major relocation areas (Los Angeles, San Francisco, Chicago and Denver), of which 408 were Navajo.

Each year the number of Navajo graduates from the off-Reservation schools increases, and each year population pressures on the Reservation grow by an estimated 2.25%. As education and vocational training reach a greater proportion of the Navajo people in coming years to change their economic and social outlook and to provide them with salable trade skills, and as the Reservation resource shrinks still further in proportion to the needs of the expanding population, the movement from the Reservation will no doubt increase. The importance of Relocation and career employment will doubtless grow to assume a major position in Navajo economy in future years.

All who are relocated do not succeed in making necessary adjustments to metropolitan, industrial living and, as would be expected, some relocatees return to the Reservation. Of the 408 Navajos who relocated in calendar year 1955, 45 or 11.3% returned.

Dick Nelson, a Sherman graduate from Tonalea, Arizona
has been employed since October, 1952, by the
Norris-Thermador Co. He is now a top Press Operator.

Arthur Yazzie, Navajo relocatee from Crownpoint and a recent
Special Program Graduate, has worked since January, 1955 as
a materials handler at Norris-Thermador.
(Photo by courtesy Norris-Thermador Corp.)

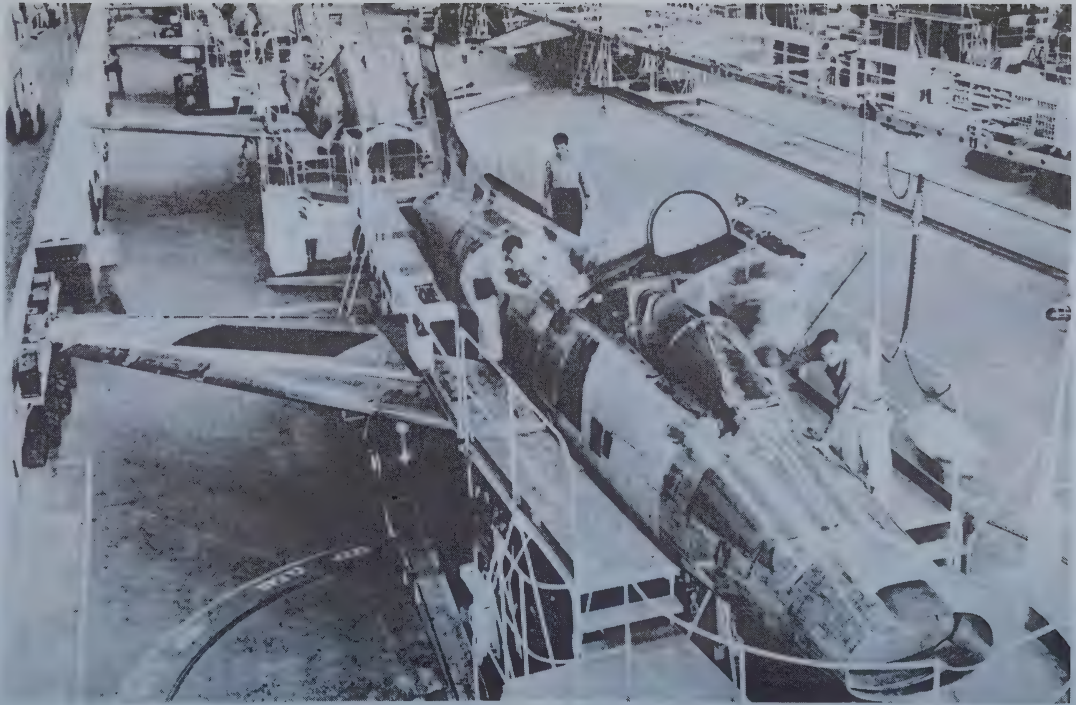
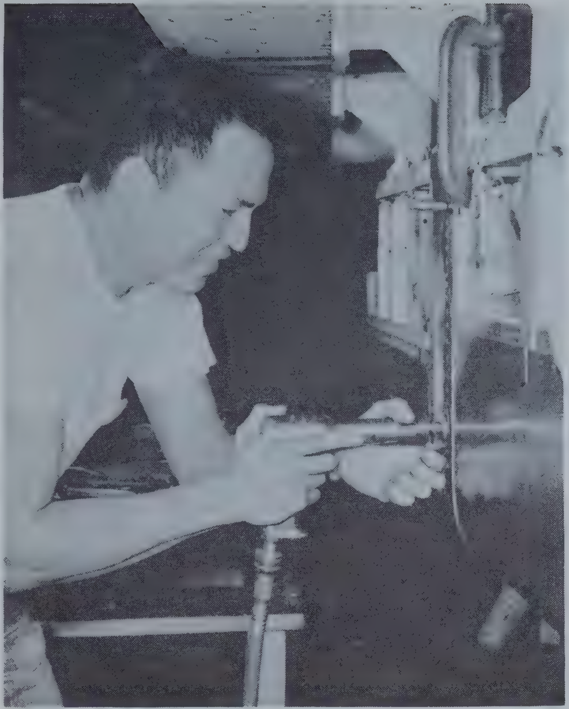
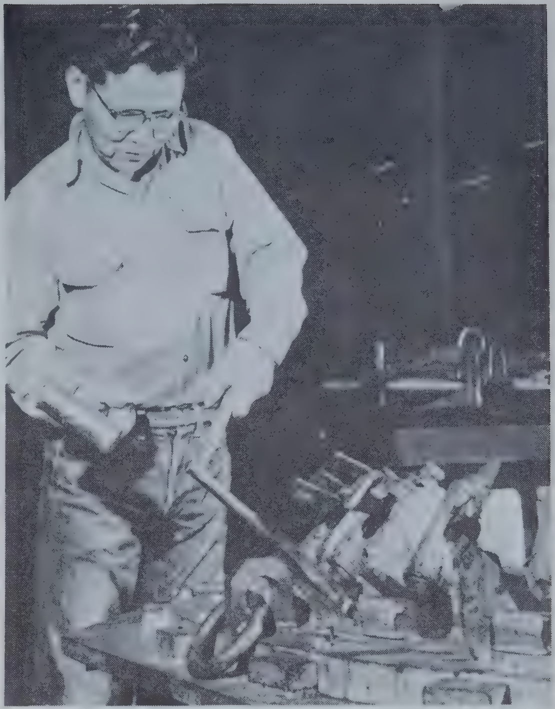


Photo by courtesy of North American Aviation.
North American Aviation, Inc., at Los Angeles employes about 500 Indians, of which about 100 are Navajo, on assembly of jet planes. Shown here is the huge assembly line and the F-100 Super Sabre in the process of production.

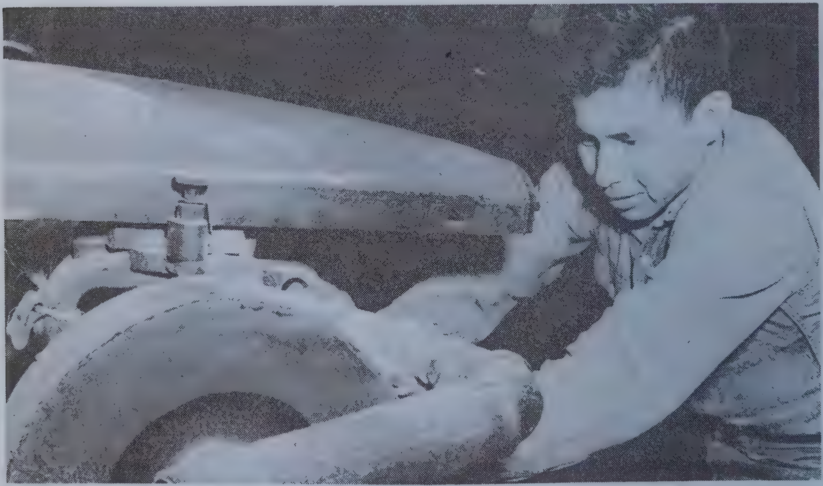


Dick Beyale Jr., whose father is a Navajo Tribal Council Delegate
from Nageezi, N. M., has worked for nearly 3 years at North American Aviation.
(Photo by courtesy of North American Aviation)



George Lewis, Navajo relocatee from Shiprock, N. M., has been
employed by North American Aviation since December, 1954.
(Photo by courtesy of North American Aviation)

Boyce Bedoni and Kato Bydonnie, Special Program graduates from Sherman in 1953 and 1951 respectively, are employed by the Ritzman Sash and Door Co. in Southgate, California.



Charlie L. Begay, graduated from the Sherman Special Program in 1952, is employed also at the Ritzman Sash and Door Co.
(Photos by ocurtesy of Sherman Institute)

The Precision Sheet Metal Works at Inglewood, California employes 6 Navajo workmen.

The Chrysler plant, located near Maywood, California employs about 100 Indians, many of whom are Navajo.

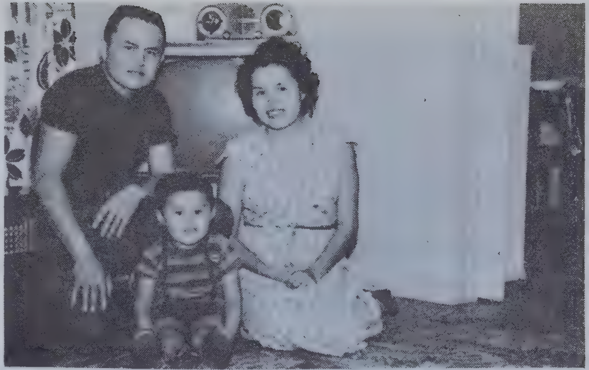
The Cole of California Plant in Hollywood employs 4 Navajo seamstresses. Evelyn Brady of Chinle, Arizona, shown at the machine graduated from the Sherman Special Program in 1953. She is now an instructress at Cole's, training other girls in machine operation.

Evelyn's sister Norma is also employed at Cole's.

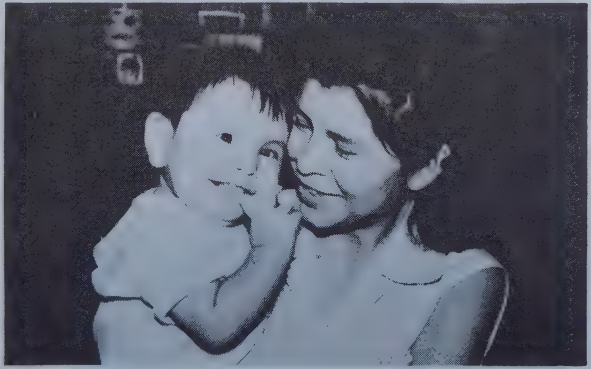
Anna Rose Jones is an accomplished typist and has worked in the Los Angeles Area for the past 3 years, employed by the Bureau of Internal Revenue and by Gilfillan Bros. Inc.

Mary Mark, graduated in 1951 from Sherman's Special Program, is employed as a Collar Press operator by the Alexander Shirt Factory in Los Angeles.
(Photo by courtesy of Sherman Institute)

3 Navajo families are housed in this Public Housing Project at Oakland, California.

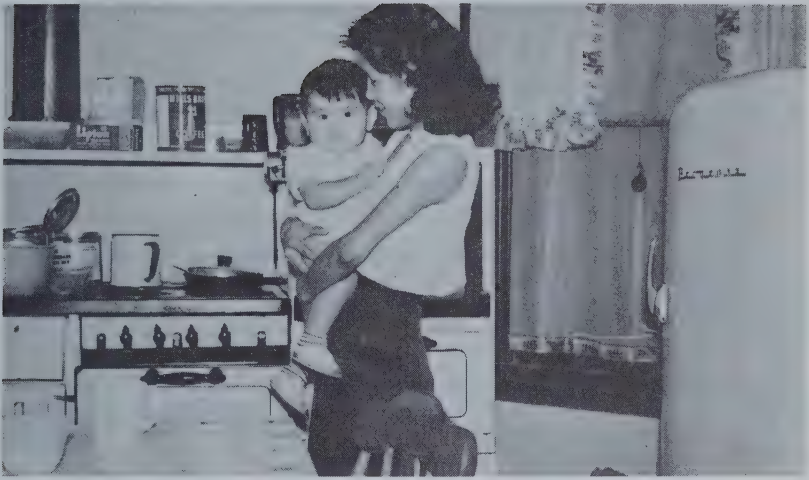


The Dick Beyale family is housed in a neat, modern apartment within commuting distance of his work.



Betty N. Price graduated from Sherman in 1952 and lives with her family in a modern apartment in San Francisco.

Bessie Sherman and Rose Ann Ashley, both graduated from Intermountain's Special Program in 1955. Both work in Los Angeles, and Bessie attends adult night classes at Manual Arts High School.



Relocatee housing is generally modern, well kept, and reasonably priced.

One of the production tables at Cole of California's garment plant in Hollywood.

In the meantime there are many purposes for which all or a sizable portion of the $3,500,000 Long Range authorization could be advantageously utilized. Among the possibilities are:

1. Development of vocational training opportunities, at a high school level, for those Navajo children who desire careers based on industrial employment, rather than professional careers. Such training could be arranged, perhaps, at high schools or trade schools located in industrial areas, where there is close liaison between industrial operators and high school vocational training departments, or at existing off-Reservation schools operated by the Bureau.

2. Development of vocational training programs keyed to the requirements of industries which may be established on and near the Navajo Reservation, including a program of adult education stressing the English language, knowledge of off-Reservation living, etc.

3. Expansion of the existing Relocation Training Program, presently restricted to Tribes affected by withdrawal legislation, to include the Navajo. Again vocational and other training could be provided by the public schools, special schools, or Bureau operated schools located outside the Reservation.

4. A survey designed to provide vital information relative to the Navajo population, including Navajo economy, income, work skills, etc.

The Gallup Indian Community Center

The position enjoyed by Gallup, New Mexico, as a focal point in the recruitment of Navajos for off-Reservation employment owes largely to its strategic location. Not only is Gallup situated on the fringe of the Reservation and actually within the broader limits of the Navajo country, but three major lines of communication run through the town in the form of the Santa Fe Railway, U. S. Highway 66, and State Highway 666. These circumstances make Gallup a center for trade and off-Reservation contact for a large number of Navajos, and led to the construction of the Indian Center to serve the needs of recruitment and discharge, as well as those of the transient Navajo population generally. The Center houses a clinic, and provides a variety of services described below:

The facility was turned over after its completion in 1953, to a Corporation for operation and maintenance, and the latter subsequently contracted with he Unitarian Service Committee to assume full responsibility for the plant and for the direction of the program carried on by the Center. The clinic operation was excluded as a responsibility of the Unitarian Service Committee and was initially assumed by the Branch of Health of the Bureau of Indian Affairs. It has been operated, since July, 1955, by the U. S. Public Health Service, with medical services provided partly through contracts with local physicians, and with scheduled ambulance services to the Fort Defiance Medical Center available on week days for certain types of patients. During 1955 the clinic averaged 48 patients daily, or about 17,700 during the year.

Since the opening of the Indian Center about two and one half years ago, more than 35,000 persons, principally Navajo, have paid the small fee of 15 cents for soap, towel and the use of the shower provided by the facility. Over the same period, more than 16,000 Indian people have stayed over-night in the lodgings provided there, at a nominal cost of $1.00 per adult and $0.50 per child. During 1955 alone, about 600 Navajos were lodged at the Center in connection with off-Reservation employment. The fee charged is used to defray partially the cost of the services provided.

During 1955, the Indian Center rendered emergency assistance, or guidance and referral services to 4,358 persons, including stranded Indian children.

In addition to the direct assistance and services in reference above, the Center sponsors an active program of education and group activities. Exhibits, pictures, movies, tape recordings and the like are available in the lounge for the casual visitor, and varied activities are provided in the form of a Square Dance Club, Machine Sewing Classes, a course in conversational Navajo, a Community Cooperative Nursery for pre-school children, adult social affairs under the auspices of the Arrowhead Club, etc. Many Indian and non-Indian residents of Gallup participate in activities conducted by the Center.

A Navajo Citizenship Education Program is being expanded with the aid of a special grant from the Schwarzhaupt Foundation.

The total budget for the Indian Center is provided by the Unitarian Service Committee, with aid from the Field Foundation, the Schwarzhaupt Foundation, the Town of Gallup and local businessmen. The Board of Directors of the Community Center Corporation is composed of seven members, three of whom represent the Navajo Tribe, and the remainder of whom represent McKinley County and the Town of Gallup. The Center has a staff of eleven persons, of which six are Navajo.

11. TELEPHONE AND RADIO COMMUNICATION SYSTEMS

The telephone system serving the Navajo-Hopi Reservation area is operated by the Bureau of Indian Affairs in the absence of commercial facilities, and development of the system began many years ago.

Expanded programs of education and resource development during the period 1932-36 required enlargement of the telephone system and during that time approximately 1500 miles of pole lines were installed to connect outlying schools and other facilities through seven small magneto switchboards located at Fort Defiance, Tuba City, Fort Wingate, Crownpoint, Chinle, Shiprock and Keams Canyon. In addition, with the completion of the Navajo Agency headquarters at Window Rock in 1935, a modern common battery system with manual operation, was installed to serve the new headquarters area.

In 1937 a new automatic dial switchboard replaced the magneto switchboard in the Fort Defiance Hospital and toll lines were constructed between the Window Rock exchange and Fort Defiance. Completion of these two exchanges brought the number of telephones on the two Reservations to about 500, all of which could be interconnected through the several exchanges. However, despite subsequent expansion of educational and other facilities in the area, there was little proportionate enlargement of the communications system until 1950 when, with enactment of the Long Range Program, a total of $250,000 was authorized for that purpose.

A survey of the existing telephone system was accordingly carried out to determine need and procedure with relation to modernization of the system, as a first step in the development of modern automatic dial service throughout the area. The total authorized Long Range Appropriation was made available during fiscal years 1951-53 and, with additional funds in the form of Regular appropriations, the following projects were completed at the costs indicated:

Year	**Project**	**Completion Cost**
1950	Automatic Dial System at Keams Canyon	$ 25,000
1951	Automatic Dial System at Tohatchi	8,000
1952	Automatic Dial System at Shiprock	35,000
1953	Automatic Dial System at Fort Wingate	15,000
1953	Automatic Dial System at Crownpoint	37,000
1954	Automatic Dial System at Tuba City	35,000
1955	Automatic Dial System at Window Rock	60,000
	Total	$215,000

In addition to the automatic switchboards in reference above, it was necessary to build many miles of line and cable, increase the number of toll circuits, and install a large amount of accessory equipment. As a result, the 500 telephones serving the Navajo-Hopi area in 1950 have grown to 1,220 in 1955, and whereas only in the Window Rock-Fort Defiance areas was telephone service available on a 24-hour basis five years ago, it was available throughout the system at the close of 1955.

Regular funds made available to the Branch of Communications in fiscal year 1956 totalled $57,000, which was used or programmed for continued improvement of Reservation telephone facilities, including a new cable distribution system in the Fort Defiance area, and installation of a cable between Fort Defiance and Window Rock to permit direct dial connections between Fort Defiance and the Window Rock exchange.

In 1955, approximately $25,000 was made available for the purchase and installation of radio communication facilities, as an aspect of the Navajo Emergency Education Program. Transmitters and receivers were installed in 22 trailer schools, and 5 were placed in the offices of the School Superintendents at the Subagencies to provide emergency communications for those educational facilities lacking telephone service.

Appropriated funds are not required for expenses of operation and maintenance of the telephone system; these are paid from IMPL funds derived from government and non-government users of the Reservation system.

12. REVOLVING LOAN FUND

The Long Range Act authorized the appropriation of $5,000,000 for the establishment of a revolving loan fund to provide a source of credit to Navajo and Hopi Indians and their organizations with which to finance productive enterprises. During fiscal years 1952-53, a total of $1,800,000 was appropriated, and no subsequent appropriations have been made under the category in reference.

The Navajo Tribe borrowed $700,000 from the above-mentioned appropriations, which it subsequently supplemented with Tribal funds to establish a revolving credit program. A total of $300,000 was committed for use by the Hopi Indian Credit association for use in making loans to individuals of which a total of $50,000 has been advanced. A total of $378,044 was made available to finance Navajo and Hopi settlers on the Colorado River Reservation. Repayments on loans and interest earnings revert to the revolving credit fund, in which there was $830,819 available for loans at the close of fiscal year 1955.

To June 30, 1954, 704 loans, totalling $461,991.48, were made from the Navajo Revolving Credit Fund, and $738,973 was used to finance tribal enterprises. Aside from educational loans, the Program was closed in 1953, pending improvements in the collection of delinquent accounts, and the development of new procedures and regulations to more effectively control the Revolving Credit Program. The latter were formally adopted by the Navajo Tribal Council on June 24, 1955, and the Advisory Committee subsequently acted to establish a revised Plan of Operation for the Program.

In accordance with the new Plan of Operation, loans may be granted for the following purposes, bearing interest as indicated: (1) Educational loans to individuals who have completed high school — 2%; (2) loans to individuals for land acquisition, leveling, housing(1) and home improvement — 4%; (3) loans to individuals for productive purposes (farm machinery, equipment, purchase of livestock, grazing permits, seed, fuel, etc.) — 5%; (4) loans to finance tribal enterprises — 4%.

The Revolving Loan Program was reopened in August, 1955, and 19 new loans have been granted thus far, as summarized below:

12	Educational loans	$6,681
1	Housing loan	3,200
1	Livestock loan	600
5	Miscellaneous	4,873

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(1) The Central Loan Committee of the Navajo Tribe is presently in the process of developing a policy to govern the granting of housing loans on the Reservation.

In addition, the Central Loan Committee has completed review of 38 applications, of which it has approved 28.

Repayments on loans outstanding during calendar year 1955, both in the form of interest and principal, total $39,884.20 from individual borrowers and $151,327.02 from tribal enterprises. On December 31, 1955, there remained 225 loans outstanding with an unpaid balance of $136,566.85, and the balance owing on 11 loans to tribal enterprises has been reduced to $505,287.79.

13. HOUSING AND NECESSARY FACILITIES AND EQUIPMENT

The Long Range Act authorized the appropriation of $820,000 for this activity. However, of this authorization, only $26,300 has so far been appropriated, and this sum was allocated to the Colorado River Resettlement program for the development of resettlement housing. These funds were used to remodel old barracks buildings as temporary quarters for Navajo and Hopi families who are farming land on the Colorado River project. From this makeshift housing, they move into their own homes on their allotments.

14. COMMON SERVICE FACILITIES

The Long Range Program authorized the appropriation of $500,000 for the construction of warehouses, garages and other facilitating services required in carrying out the Long Range Program. Of the authorized total, $495,100 was made available in fiscal years 1951 and 1953, and the appropriations were used for the consruction of a large warehouse in Gallup, New Mexico, and a warehouse and garage at Keams Canyon, Arizona. The Gallup warehouse cost $345,100 and is presently operated by the General Services Administration; the Keams Canyon construction was completed at a cost of $150,000.

OTHER NAVAJO AGENCY ACTIVITIES

Certain additional activities are carried on by, or under the direction of, the Bureau of Indian Affairs, of which Welfare and Law and Order occupy positions of primary importance. For the sake of completeness, these services are described herewith below, and additional specific information may be found in the Appendix.

Law and Order: The responsibility of law and order on the Navajo Reservation is shared financially by the Navajo Agency and the Navajo Tribe, although prior to 1952 it was exclusively a Federal responsibility. In 1952, the Navajo Tribal Council debated a proposal to provide six tribally paid police officers for duty in the checkerboard area of Navajo occupancy lying outside the Reservation boundary in New Mexico, and by resolution adopted on April 23 of that year the Council instructed the Advisory Committee to study the proposal and, if feasible, to provide a total appropriaion of not to exceed $32,669 for the purpose in reference. After careful study and conference with the Governor of New Mexico, the Tribal Attorneys, Mr. William A. Brophy, Chairman of the New Mexico Governor's Special Committee on Law and Order in Taylor Grazing District No. 7, and others, the Advisory Committee, on July 11, 1952, approved the expenditure of $32,669 as proposed, and recommended that the Tribal Budget for fiscal year 1953 be amended accordingly. The action of the Advisory Committee and the proposed budget amendment were approved by the Commissioner of Indian Affairs on July 30, and steps were immediately taken to recruit personnel for the six positions thus created. The new police, although paid by the Tribe, were placed under the administrative control of the then Window Rock Area Branch of Law and Order. This action by the Navajo Tribe was the first step in the direction of assuming an increasing amount of responsibility for policing the Navajo country.

The extent of subsequent Tribal participation is reflected in the annual increase in the amount budgeted by the Navajo Tribe for Law and Order purposes since fiscal year 1953, as shown herewith:

1953	$ 32,669
1954	126,896
1955	243,267
1956	378,080
Total	$780,912

The budget figures given do not include appropriations for the support of the Tribal Judiciary and the Council Committee on Law and Order, for which $63,967 and $2,484 respectively was provided in the 1956 Tribal Budget. The Tribal Committee in reference above has assumed a high degree of responsibility in the solution of administrative problems relating to the law and order operation, and in the improvement of the Branch.

The Federal Law and Order appropriation for fiscal year 1955, totalling $57,497, was allocated for 14 positions in the Agency Branch, while the Tribal appropriation covered 49 positions, as well as the cost of necessary equipment.

With the increased police force, the quality of law enforcement in the Navajo country has improved materially over the past four years, although provision of adequate court and jail facilities remains a serious and costly problem. No funds were authorized by the Long Range Act for Law and Order purposes.

WELFARE: The Welfare Program of the Navajo Agency is carried out through the Branch of Welfare, and is designed to provide needy adults and children with services and assistance which are not available from other Federal or State sources. The appropriation for this purpose in fiscal year 1955 totalled $310,946, and in 1956, $381,462.

General Assistance payments are made to eligible Navajos on the Reservation when such persons are ineligible for aid through State programs. The Child Welfare Program provides for the protection and care of orphaned, abandoned, neglected, mentally retarded, physically handicapped, or other categories of children in need of assistance. During the current fiscal year 34 blind and deaf Navajo children are receiving training in special schools at a cost of about $36,764. Cost of care for handicapped children is steadily increasing as a result of increased tuition costs in the State schools for the deaf and blind, and because of the growing number of children with visual and auditory handicaps who are receiving attention for the first time as social services become more readily available throughout the Reservation. During the past few months nineteen new referrals have been received for care under the program for the care of deaf and blind children. Clothing for these children is provided by the Navajo Tribe, but the cost of tuition, transportation, and other expenses is borne by the Bureau from Federally appropriated funds.

In fiscal years 1955 and 1956, the appropriations totalled $151,260 and $194,613 respectively for General Assictance, and $81,338 and $84,780 for Boarding Care. Additional information is available in the Appendix, and in the table below.

General Assistance needs fluctuate somewhat with other factors, especially with intensification of the education and tuberculosis treatment programs, which are accompanied by increased demands for financial assistance. However, the need, as reflected by the annual allocation of funds, has remained fairly constant during the period fiscal years 1951-56.

Child Welfare needs, on the other hand, have increased annually since fiscal year 1951, especially with regard to foster care of children and provision of protective and preventive case work services.

The present Welfare staff, which includes only two Child Welfare Workers, is not adequate to cope with the total need in this regard. The problems involved in child welfare services include the finding of foster homes, the supervision of children under boarding care, the development of social studies and the supervision of juvenile cases for the Navajo Courts of Indian Offenses, the preparation of adoption reports, and the planning for care of children from the Federal boarding schools who, for various reasons, have no home to which they can return during the summer months.

There has been a steadily increasing demand from the tribal judges for social services in developing plans for the protection of children referred to the Navajo courts, and the impact of the greatly expanded Navajo educational program has resulted in the need for close cooperation between the Branches of Education and Welfare in meeting the requirements of both children and adults. An effort is made to provide individual care in private homes for infants and pre-school children when one or both parents are hospitalized or under treatment as a result of the tuberculosis control program.

Generally, under similar circumstances, care must be provided for the older children in institutions. Most cases involving foster care are of a temporary nature, and in some instances boarding care is necessary only until the parental home can be re-established. In other instances it is necessary to provide care for longer periods to neglected or abandoned children.

At the present time a professional staff of seven social workers serves the Navajo Reservation. In addition to the professional staff there are six Navajo Case Aides who assist the social workers in obtaining verification of information needed to establish eligibility for financial aid. The Case Aides also serve as interpreters and drivers, and assist in maintaining contact with children under foster care. They work under the supervision of the Social Workers, and without their valuable assistance it would be impossible for the Branch of Welfare to provide the varied services now required of it.

The following table summarizes allocations of Federally appropriated money for General Assistance and Child Welfare purposes during the period fiscal year 1951-1956, inclusive.

1951	$170,000	$ 20,010
1952	163,000	27,520
1953	158,400	67,640
1954	156,750	68,800
1955	151,260	81,338
1956	194,613	84,790
TOTAL	$994,023	$350,098

APPENDIX

The Appendix contains general descriptive information relative to the Navajo people and their Reservation, a sketch of the development of the United States Indian Service and national policy relating to Indians, and specific statistical data in connection with census, health, education, welfare, resources and economy.

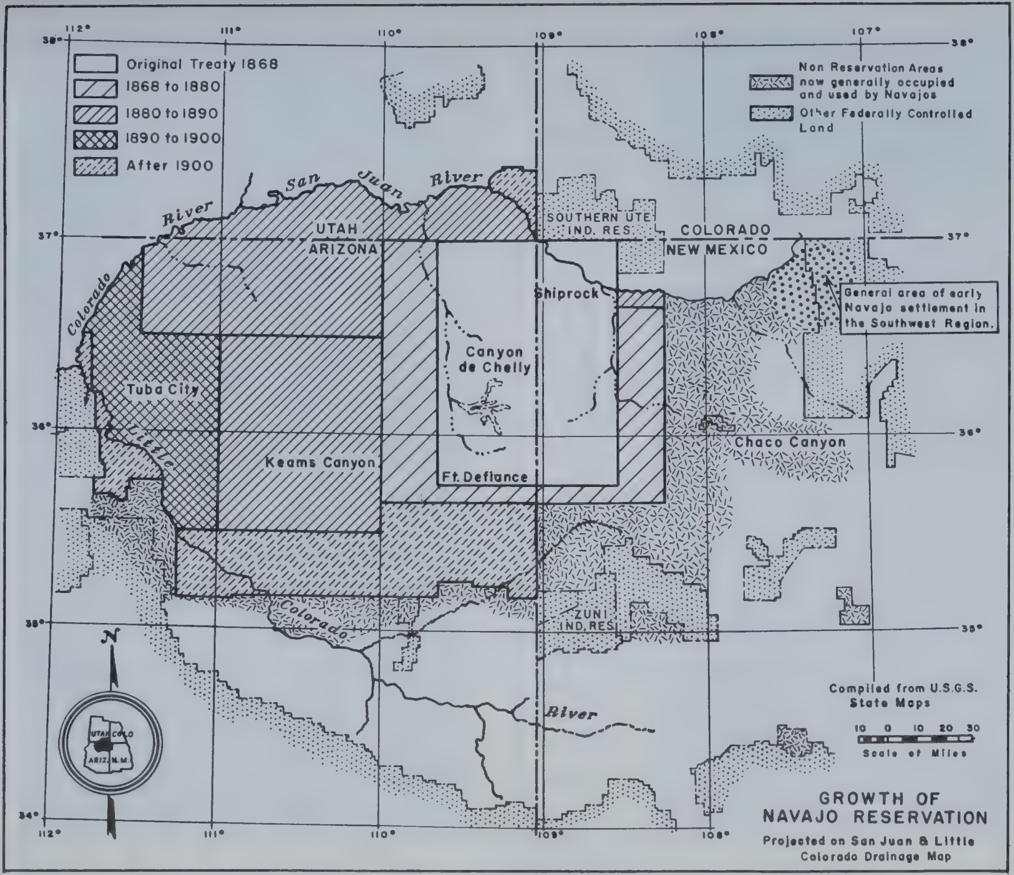
Much of the statistical material is based upon reports, tabulations and estimates contained in Navajo Agency files and developed over the course of several decades by technicians who have worked with the Navajo. Some of the data have been provided by State Departments of Public Welfare, State Employment Services, the Railroad Retirement Board, the U. S. Public Health Service, and other agencies outside the Bureau of Indian Affairs.

Close study of some tables of statistics will reveal discrepancies, some of which are minor while others are relatively great. The latter is especially true of the information provided with regard to morbidity, mortality, and health matters generally, and owes to the former inadequacy of the Reservation reporting system, and the lack of a statistics section in the former Bureau Branch of Health. The data given for the years prior to 1954 are probably inaccurate and are based upon incomplete field reports; however, they represent the only available information, and have been reproduced here on the premise that they are better than nothing at all.

Again, the Reservation area is almost totally unsurveyed, a fact which gives rise to discrepancies among tables showing estimated acreages of Land Management Districts and the like. And census information is partially estimated, even with respect to census years.

Inaccurate though some of the statistical data may be, we believe that it is the best available, and have provided it herein in the hope that it will help readers interested in the Navajo to gain a better understanding of the people, and their social and economic problems.

Review of the Appendix in this, the 1955 edition, will reveal the fact that a considerable amount of new information has been added, and many of the tables from the 1954 edition have been corrected or brought up-to-date.



GROWTH OF
NAVAJO RESERVATION

Projected on San Juan & Little
Colorado Drainage Map

Compiled from U.S.G.S.
State Maps

▭ Original Treaty 1868
▨ 1868 to 1880
▨ 1880 to 1890
▩ 1890 to 1900
▨ After 1900
Non Reservation Areas now generally occupied and used by Navajos
Other Federally Controlled Land
General area of early Navajo settlement in the Southwest Region.
10 0 10 20 30
Scale of Miles
112°
111°
110°
109°
108°
107°
38°
37°
36°
35°
34°
San Juan River
Colorado
Little Colorado
River
UTAH
ARIZONA
COLORADO
NEW MEXICO
SOUTHERN UTE IND. RES.
ZUNI IND. RES.
Shiprock
Canyon de Chelly
Ft. Defiance
Chaco Canyon
Tuba City
Keams Canyon
N
UTAH
COLO
ARIZ.
N.M.

THE NAVAJO COUNTRY

The following description of the geography, soil, climate and vegetation of the Navajo country is adapted from an excellent report compiled in 1941 by Mr. Paul Phillips of the Navajo Agency, and entitled "General Statement of Conditions in the Navajo Area."

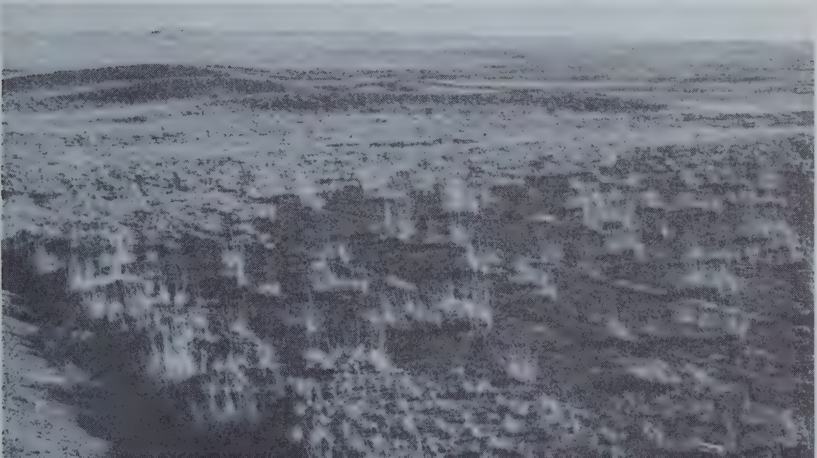
PHYSIOGRAPHY: The Navajo Area includes all of the Navajo and Hopi Indian Reservations (totaling 15,087,163 acres or 23,574 square miles) within the present legally described boundaries. The area straddles almost the entire length of the divide separating the watersheds of two of the Colorado River's most important tributaries—the San Juan and the Little Colorado—and extends northward from this divide across the flood plain of the San Juan between Fruitland, New Mexico, and Montezuma Creek below Aneth, Utah, and southward across the flood plain of the Little Colorado at Leupp, Arizona. The divide between these two systems describes a tortuous course running diagonally across the area in a northwesterly direction from the southeast corner, beginning at a point about 40 miles from the Continental Divide, and splitting north of Tuba City to cut off a series of smaller watersheds draining directly into the Colorado River. Approximately 6,561,000 acres (44%) drain into the San Juan; 7,375,500 acres (49%) drain into the Little Colorado, and 1,150,600 acres (7%) drain directly into the Colorado River. The area includes about two fifths each of the San Juan and Little Colorado River systems which, together with the Virgin River, drain about 65,000 square miles and, while contributing only 10% of the water of the Colorado, produce 75% of the silt. The Navajo constitutes 36% of this critical area and, therefore, occupies the most important western watershed position.

The surface of the Navajo area includes four principal features: 1. The flat alluvial valleys at elevations from 4,500 to 6,000 feet; 2. The broad, rolling upland plains between 5,500 and 7,000 feet; 3. The mesas located at elevations of 6,000 to 8,000 feet; and 4. The mountains ranging from 7,500 to over 10,000 feet in altitude. Each of these four major types is cut by canyons of a few hundred feet to more than 2,000 feet in depth and is broken by prominences rising as high as 1,500 to 2,000 feet. Most of the Navajo-Hopi area lies between elevations of 5,000 and 7,000 feet.

There are three outstanding highland provinces, namely the combined Chuska-Carrizo Mountain range, the Black Mesa, and Navajo Mountain.

The combined Chuska-Carrizo chain forms a long range extending across the eastern portion of the reservation in a north by north-westerly direction. The tops of these mountains are alternately broken, with flat plateaus situated at altitudes of 8,000 to 8,800 feet, from which ridges and buttes rise still higher to elevations up to 9,500 feet. Along the eastern slope of the Chuskas between 7,300 and 7,800 feet lies a narrow level bench below which is a rough and severely dissected slope extending downward to the plains below. The bench becomes more broken at the southern extremity and continues around to the north and west of Mexican Springs, somewhat narrowed, to break away southward in the form of rough wooded hills. To the east these hills meet

The Carrizo Mountains—Mountain peaks, mesa lands and . . .



Flat plains dominate the Navajo country.

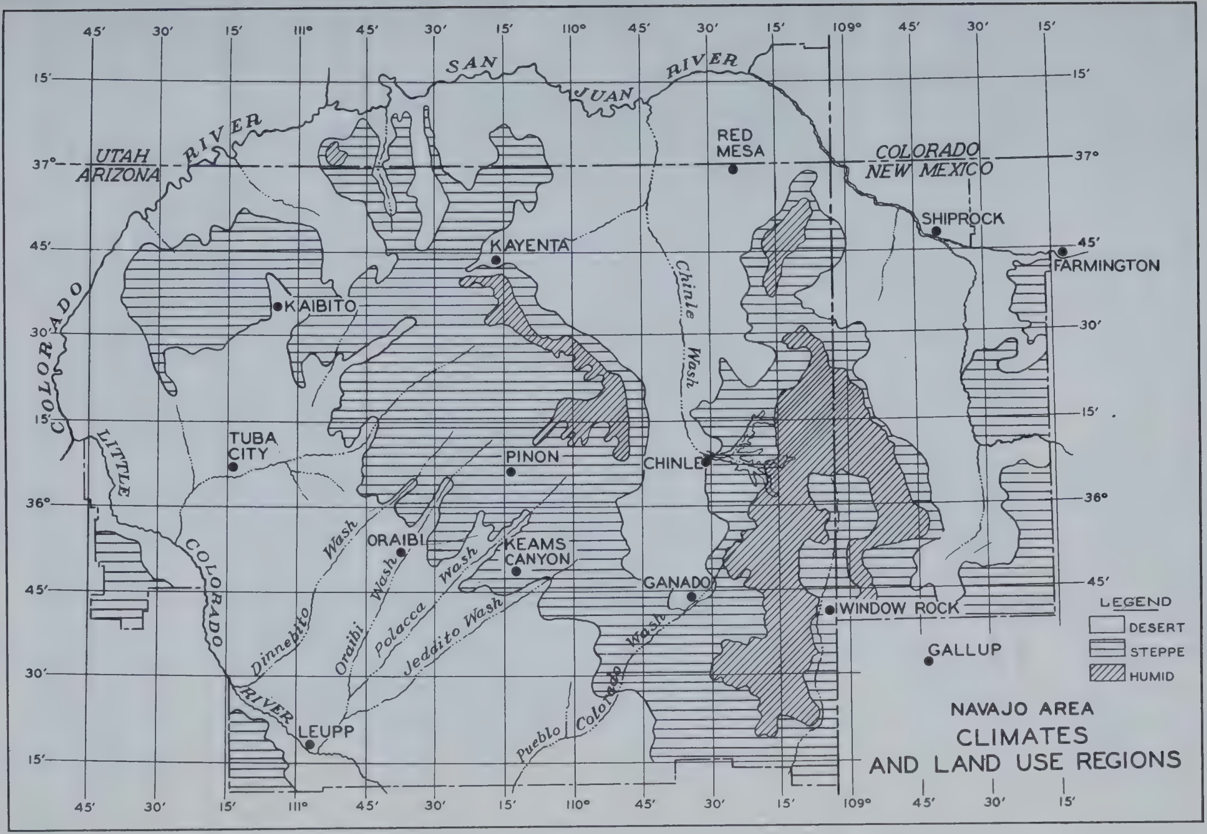
a high plateau known as Mesa de Los Lobos. The slope is made up of a series of exposed strata of sandstone, conglomerate, shale and igneous rock from which springs, fed principally by snow water deposited in mountain lakes, break forth.

Black Mesa is an island prominence about 250 miles in circumference located almost exactly in the center of the Navajo-Hopi area. The northern and eastern escarpments are precipitous cliffs rising 2,000 feet above the plain, from which the mesa top slopes gradually away to the southwest. Streams draining the mesa reach almost to the very edge of the escarpments, heading in an extremely rough and broken country with steep slopes and narrow canyons. The main drainages flow between southwesterly aligned ridges and mesas, dissected by numerous canyons and small side valleys, which break up further to the south and southwest, the ridges ending in finger-like projections. Three of the latter are the first, second and third mesas of the Hopi country.

Navajo Mountain, located in the extreme northwestern portion of the reservation, is the third most important prominence. It is a lone peak rising 5,000 feet above the surrounding plains to an elevation of 10,416 feet, the highest point of the Navajo area. In this portion of the reservation, broad, rolling, broken plateaus extend from the Echo Cliffs in a curving northeasterly direction around Black Mesa and across Chinle Valley. Paralleling this belt on the north is another wide strip of country, extremely rugged and barren, with high broken mesas and deep canyons; probably the most inaccessable part of the entire reservation, it extends from Echo Cliffs to Chinle Wash. Because of the excessive drainage due to numerous falls and deep canyons, it is practically impossible to obtain water in this area by drilling wells. There is a number of springs along the cliffs and in the heads of the canyons.

CLIMATE: It is well known that in mountainous country climate is determined largely by elevation and topography, factors which partially subdue the influence of latitude. Increased humidity at high altitudes may bring about the development of transitional-zone plant associations, while air drainage, sub-irrigation, and northern exposure may produce similar associations in the heads of canyons 3,000 or 4,000 feet lower down.

There are three distinct climates within the Navajo area: 1. The cold humid climate of high altitudes, including the upper elevations of the Chuska and Carrizo Mountains, the Fort Defiance Plateau, a strip along the northern and eastern escarpments and the highest ridges of Black Mesa, the top of Navajo Mountain, and several small areas located in the heads of some of the canyons in the Tsegi country and northwestern part of the reservation; 2. The intermediate steppe climate of the mesas and high plains, including belts along mountains, foothills, the high portions of the Chaco and Chinle plains, Black Creek Valley, a large part of Black and Balakai Mesas and adjacent mesas of similar elevations, and the areas of the vicinity of Inscription House, the plateaus above the Tsegi canyons, Piute Mesa, Mormon Ridges, and Preston Mesa; and (3) the comparatively warm desert, including the lower portions of the Chaco and Chinle valleys and all the southern, western, and northwestern parts of the reservation. Of the entire area of 23,574 square miles, 1,760 square miles (8%) is classed as humid; 8,748 square miles (37%) as steppe, and 13,066 square miles (55%) as desert.



NAVAJO AREA
CLIMATES
AND LAND USE REGIONS

LEGEND
DESERT
STEPPE
HUMID
SAN JUAN RIVER
COLORADO RIVER
LITTLE COLORADO RIVER
UTAH
ARIZONA
COLORADO
NEW MEXICO
RED MESA
SHIPROCK
FARMINGTON
KAYENTA
KAIBITO
Chinle Wash
TUBA CITY
PINON
CHINLE
ORAIBI
KEAMS CANYON
GANADO
WINDOW ROCK
GALLUP
LEUPP
Dinnebito Wash
Oraibi Wash
Polacca Wash
Jeddito Wash
Pueblo Colorado Wash
37°
36°
45′
30′
15′
109°
110°
111°

The three climates, though markedly different and distinct in many respects, are not separated by fixed or sharply drawn lines except where divided by wide differences in elevation. Desert merges into steppe and steppe into humid, with certain characteristics, such as wide daily, monthly, and yearly fluctuations in temperature, high evaporation rates, periodic high winds, wet and dry seasons, and intense local storms, common to all three.

The Humid Zone: The average annual temperature of the humid zone ranges from 43 to 50 degrees Fahrenheit. Winters are continuously cold during the months of December, January, and February, with average minimum temperatures varying from 4 to 15 degrees. Minimum temperatures may reach 25 degrees below zero. The average maximum temperatures during June, July and August, the hottest months, are between 70 and 80 degrees, with the highest temperature on record at 99 degrees.

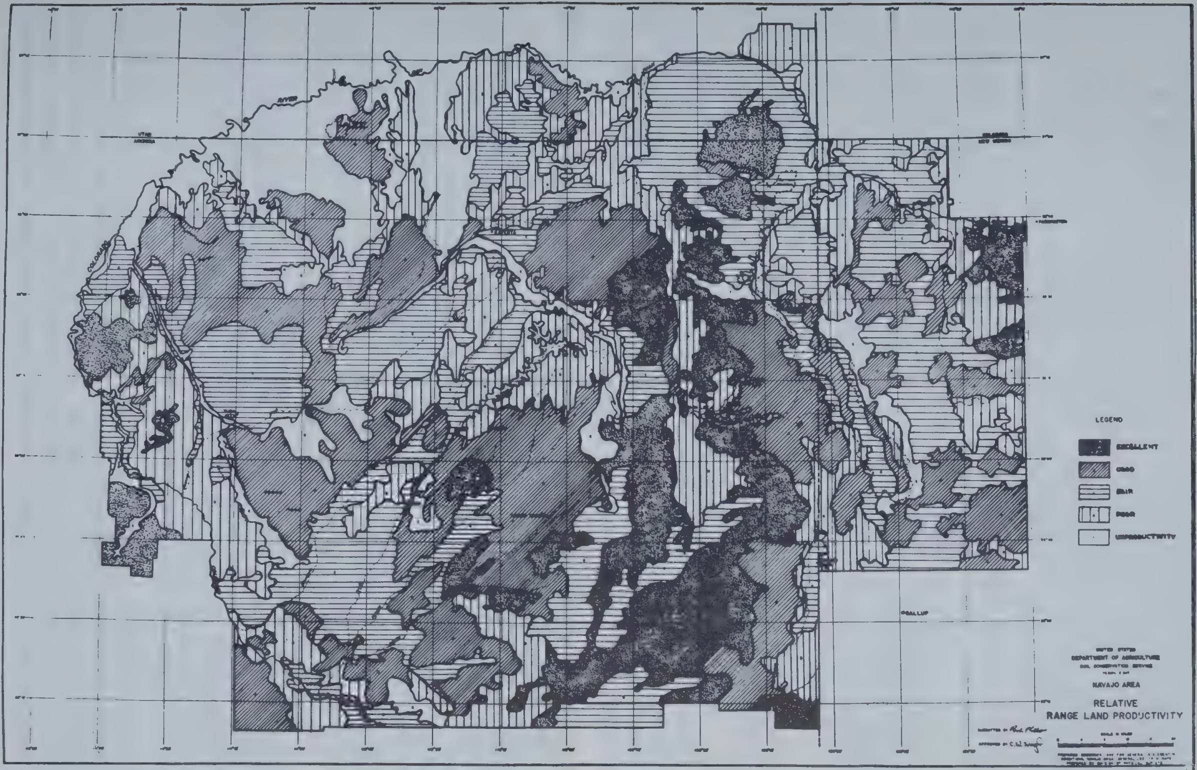
Total annual rainfall averages between 16 and 27 inches, the high averages being reached only at the highest elevations. There are two distinct periods of precipitation, the winter period (December, January, February and March), when 42 per cent of the total annual precipitation generally falls, and the summer period (July, August, and September), when 32 per cent generally falls. Between these two periods there are the early summer dry period of April, May and June and the fall dry period of October and November.

Snow accounts for 41 percent of the total precipitation, with December, January, February and March as the months of heaviest snowfall. The total annual fall usually exceeds 90 inches, with deposits often reaching 4 or 5 feet in depth on the level and 30 feet when drifted. Run-off from melting snows takes place principally during April and May, at which time the seasonal mountain streams flow at maximum sustained rates.

The Steppe Zone: About one fifth of the Navajo area falls within the steppe zone. This zone is intermediate between the humid above and the desert below, with moderate summers and frequently severe winters. The average annual temperature ranges from 45 to 50 degrees with an average minimum monthly temperature during the winter of 10 to 25 degrees, and an average maximum during the summer of 80 to 88 degrees .The coldest temperatures, as low as 25 to 30 degrees below zero, occur during December, January, and February; the highest temperatures, which may exceed one hundred degrees, occur during June, July and August.

Annual rainfall normally averages 12 to 16 inches. There is one outstanding season of precipitation which occurs in July, August and September when 43 per cent of the total annual precipitation falls. There are two more or less definite periods of drought, in May and June and in October and November.

Within the steppe zone one-fourth of the precipitation falls as snow, the fall usually averaging about 30 inches per season. Deposition often reaches 2 or 3 feet, and high winds may drift snow to depths of 8 or 10 feet. December, January, February and March are the months of heaviest snowfall. Usually by late March most of the snow has melted and resulting run-off has subsided; streams originating within this zone are dry washes most of the year and flow steadily only two or three weeks in early spring.


LEGEND
EXCELLENT
GOOD
FAIR
POOR
UNPRODUCTIVITY
UTAH
ARIZONA
COLORADO
NEW MEXICO
COLORADO
RIVER
GALLUP
UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
NAVAJO AREA
RELATIVE
RANGE LAND PRODUCTIVITY
SCALE IN MILES

MAP 6

The Desert Zone: About three-fourths of the Navajo area is classed as desert. The average annual temperature is 50 to 60 degrees with a relatively long warm season extending through April, May, June, July, August, September and even into October and November. In mid-summer maximum temperatures may reach 110 degrees or more, and average maximum monthly temperatures in some localities may reach 100 degrees. December, January, and February are the coldest months with minimum temperatures averaging 11 to 30 degrees above zero, but temperatures as low as 20 and 30 degrees below zero have been recorded.

Total annual rainfall normally averages between 7 and 11 inches, but wide variations are the rule with figures registered as low as 1.5 inches and as high as 16 inches. The wettest season occurs during July, August, and September, when 41 per cent of the total annual precipitation falls. Snowfall accounts for a comparatively small portion of the moisture supply, and low reaches of this zone often do not have more than a few flurries. The snow that does fall usually comes during December, January, and February, the period from March to November being almost completely free from snow.

The average annual total of days which have measurable precipitation is less than 50, most of which occur during July and August.

Records for the desert zone show an average growing season of 173 days extending between approximate dates of April 25 and October 15; the growing season within the steppe belt averages approximately 147 days, extending from about May 14 to October 9; and the growing season within the area of humid climate averages 95 days, extending from about June 12 to September 15.

The humid zone is often snow-bound from December to April each year, and the Indian inhabitants migrate to lower elevations.

Within the desert and steppe climates, most of the rainfall occurs as summer downpours of high intensity and short duration. Like the southwest generally, the Navajo area is a sunny country, the percentage of clear days averaging about 80 per cent of the total. High winds and sandstorms occur during the late spring and early summer months.

The high rate of evaporation is one of the most important causes for the loss of water in the Navajo country, particularly from the surfaces of reservoirs and lakes exposed to wind movement and bright sunshine. The removal of 5 to 7 feet annually from even a comparatively small reservoir means the loss of several acre feet of precious water. High winds of 38 to 46 miles per hour have been recorded. Dust devils or large whirlwinds caused by convection air currents resulting from the heating and movement upward of masses of air near the ground surface, are common in Navajoland during the summer months.

SOILS: Soils of the Navajo-Hopi area are used almost universally for the production of livestock forage. They have been evaluated by determination of certain important ecological characteristics, such as soil permeability and water-holding capacity, zone of water retention, slope, erosion, alkali, drainage, and type of vegetation, and classified into five divisions as **excellent, good, fair, poor** and **unproductive.**

Excellent Soils: Soils of this type absorb most of the average precipitation and do not produce any considerable run-off, except during maximum storms. Highly palatable grasses, principally blue grama and galleta usually are produced in pure stands or with scattered associated shrubs. Generally, erosion is not serious and will not become so unless the land is subjected to extended periods of overgrazing. Excellent soils cover an estimated 1,663,800 acres, or only 11 per cent of the Navajo area. They are most extensive in the south central part, but smaller, isolated areas are found in the extreme northeast on the plains north of Carrizo Mountain, on Second Mesa, in the Padre Canyon country, on Grey Mountain, and in the area west of Cedar Ridge.

Good Soils: Soils of this type are slightly more susceptible to erosion, and the rate of moisture penetration is equivalent to that of excellent soil or is sometimes more rapid because of the extremely sandy surface layers. Good soils are found generally over the reservation, in an area totaling about 3,500,000 acres, or 22 per cent of the Navajo-Hopi area.

Fair Soils: Soils of this type are the most extensive in the Navajo-Hopi area, and total almost 4,400,000 acres, or 29 per cent.

Poor Soils: Soils of this type occupy almost 3,400,000 acres, or 23 per cent, of the entire Navajo-Hopi reservation area.

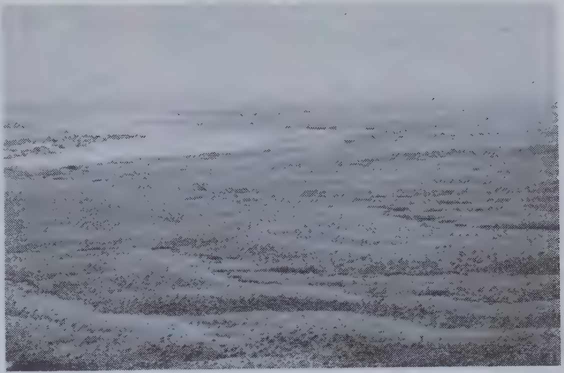
Unproductive Soils: Soils of this type occupy about 2,205,000 acres, or 15 per cent of the reservation area, including principally the rough broken strip of country bordering the San Juan and Colorado Rivers in the northern and northwestern part, and extending southward west of Echo Cliff and along the Little Colorado Valley, the northern and eastern escarpments of Black Mesa, some of the eastern escarpments of the Lukachukai Mountains, the painted desert formations, and the badlands. Land of this class has essentially no grazing value. A large percentage of the precipation escapes as run-off and carries away large quantities of silt. Vegetative cover is sparse or absent.

VEGETATION: Ten general types of vegetation occur over the Navajo-Hopi reservation area: grassland, meadow, weeds, sagebrush, browse (shrub), timber, inaccessible and barren, woodland, and aspen. These types, which actually merge in various combinations, are determined by climate, relief, soil, and other environmental factors, and the vigor and productivity of the component plants are functions of environment.

Grassland occurs typically on residual and outwash soils of rolling plains and mesas at the middle elevations. This type includes bunchgrass areas, grama areas, and other open grassland, not meadow in character, where grasses predominate. Weeds or browse, or both frequently occur in mixtures with the grasses.

PHYSIOGRAPHIC TYPES

Barren Wastelands.



An Alluvial Valley.

Rolling plains.

High mesaland.

The woodlands.

The pine forests.

VEGETATIVE TYPES

The Sage land.

A high grassland meadow.

On the reservation, meadows are found only within the most humid climate on the higher reaches of the Chuska Mountains, occurring as open parks associated with yellow pine, spruce-fir, and aspen. Growth form, densities, and forage production are similar to grasslands.

Weeds or weedlands include all untimbered areas where perennial weeds predominate over other classes of vegetation. A very common weed in the reservation area, which often makes its appearance following overgrazing, is the Russian thistle.

Sagebrush is one of the more common shrubs in the Navajo area, covering some 780,000 acres or 5.2 per cent of the area. It will supply forage for a total of about 55,000 sheep units yearlong.

Chamise and greasewood occur on undeveloped alluvial soils along most of the large drainages and their tributaries within the desert and steppe climates.

Coniferous timber is adapted to the more humid portions of the area at elevations generally above 7,500 feet, except where local topography, exposure, evaporation, and sub-irrigation result in favorable micro-climates. Heavy coniferous stands often do not include an understory of forage plants and, therefore, are of little use for grazing although such stands furnish excellent soil and watershed protection. Coniferous timber occupies about 6 per cent of the Navajo area (540,000 acres) and supplies forage for about 22,000 sheep units yearlong. Commercial timber constitutes a highly valuable resource.

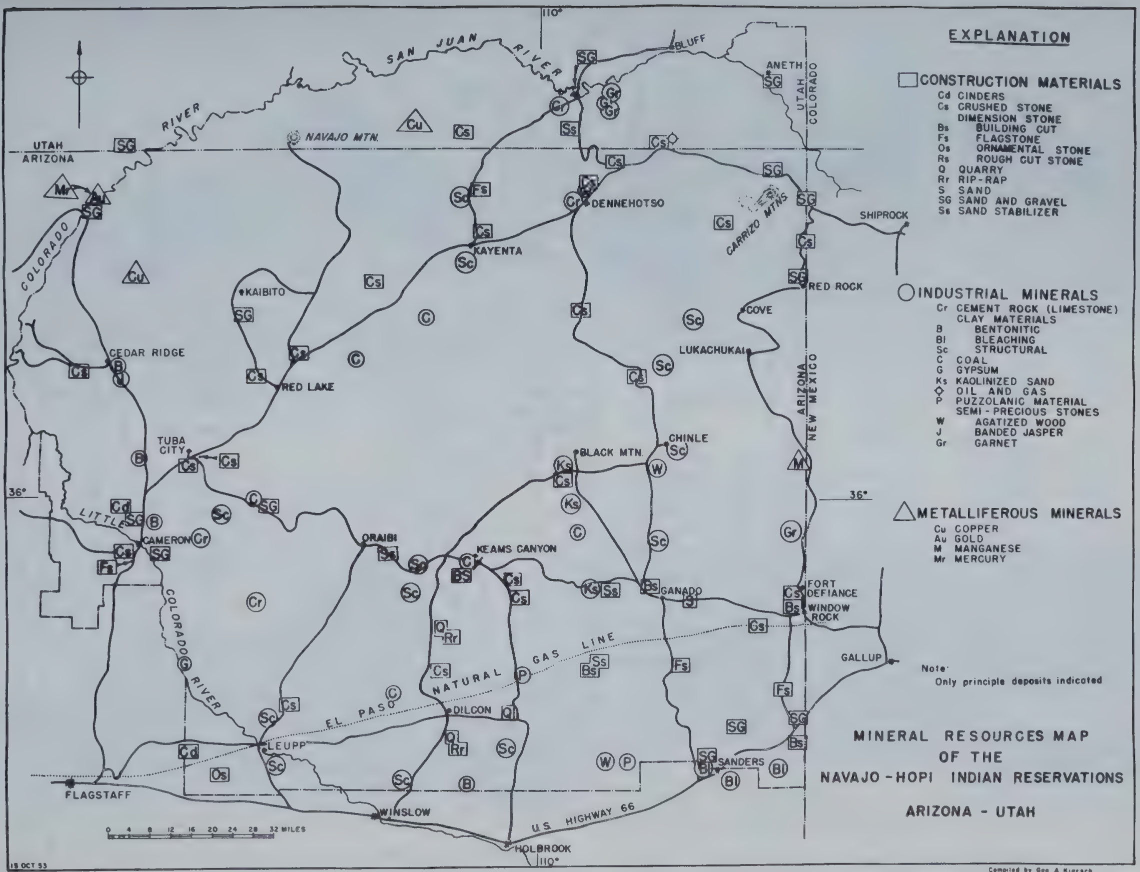
Over 1,000,000 acres (7%) of the Navajo area is wasteland, principally because of its inaccessibility. In addition, about 665,000 acres are designated as barren, and are typified by the painted desert area, bare rock regions and other badlands.

AGRICULTURE: Farming opportunities in the Navajo area depend principally upon soil slope and on water availability. The most extensive dry farm agricultural area lies within the humid belt, where agricultural soils typical of this zone are highly productive. Crops which can be profitably produced under careful management include oats and other small grains, alfalfa and sweet clover, corn, potatoes, turnips, carrots, cabbage and other cool season vegetables, and grasses for pasture and hay.

The next most favorable dry farm agricultural area falls within the steppe climatic zone, particularly the part immediately below the humid one where rainfall averages between 12 and 16 inches. The soils in this area are of medium productivity, but because of greater acreage the total yield from dry farm and flood irrigated crops grown probably exceeds all other portions of the reservation combined. Adaptable crops include winter and spring small grains, corn, melons, squashes, beans, potatoes, turnips, and other vegetables. There is more opportunity for diversification within this one than in the other two except on irrigated land.

Principally because of lack of sufficient moisture, the remainder of the reservation is generally unfavorable for the growth of farm agricultural crops.

There are about 44,500 acres of agricultural land now under cultivation on the Navajo reservation, and present estimates indicate that there are perhaps 175,000 acres possible with expansion of agricultural land.


EXPLANATION
CONSTRUCTION MATERIALS
Cd CINDERS
Cs CRUSHED STONE
DIMENSION STONE
Bs BUILDING CUT
Fs FLAGSTONE
Os ORNAMENTAL STONE
Rs ROUGH CUT STONE
Q QUARRY
Rr RIP-RAP
S SAND
SG SAND AND GRAVEL
Ss SAND STABILIZER
INDUSTRIAL MINERALS
Cr CEMENT ROCK (LIMESTONE)
CLAY MATERIALS
B BENTONITIC
Bl BLEACHING
Sc STRUCTURAL
C COAL
G GYPSUM
Ks KAOLINIZED SAND
◇ OIL AND GAS
P PUZZOLANIC MATERIAL
SEMI-PRECIOUS STONES
W AGATIZED WOOD
J BANDED JASPER
Gr GARNET
METALLIFEROUS MINERALS
Cu COPPER
Au GOLD
M MANGANESE
Mr MERCURY
Note: Only principle deposits indicated
MINERAL RESOURCES MAP
OF THE
NAVAJO-HOPI INDIAN RESERVATIONS
ARIZONA - UTAH
110°
36°
SAN JUAN RIVER
COLORADO RIVER
LITTLE COLORADO RIVER
UTAH
ARIZONA
COLORADO
NEW MEXICO
BLUFF
ANETH
NAVAJO MTN.
DENNEHOTSO
KAYENTA
CARRIZO MTNS
SHIPROCK
RED ROCK
COVE
LUKACHUKAI
KAIBITO
CEDAR RIDGE
RED LAKE
TUBA CITY
CAMERON
CHINLE
BLACK MTN.
ORAIBI
KEAMS CANYON
GANADO
FORT DEFIANCE
WINDOW ROCK
GALLUP
EL PASO NATURAL GAS LINE
DILCON
LEUPP
FLAGSTAFF
WINSLOW
HOLBROOK
SANDERS
U.S. HIGHWAY 66
0 4 8 12 16 20 24 28 32 MILES
15 OCT 53

Compiled by Geo A Kiersch

FIGURE I

MINERALS: The metallic minerals include gold, silver, copper, and uranium-vanadium.

Copper is known to exist at several locations on the Navajo reservation, and small amounts occur in the Carrizo Mountains.

Carmotite, a uranium-vanadium mineral, occurs throughout southwestern Colorado, southeastern Utah, and at certain localities in northeastern Arizona. On the reservation it occurs in various locations, principally in the Monument Valley and in the Carrizo Mountains.

Minerals known to exist on the reservation include bentonite, asphalt rock, building stone, clays, gypsum, lime and alum, as well as peridot, garnet and agatized wood.

The distribution of coal in the Navajo country is practically co-existensive with that of the strata of Upper Cretaceous age. In general, it may be said that two fields are distinguishable, the Black Mesa coal field of Arizona, and the Gallup-Durango field of New Mexico and Colorado.

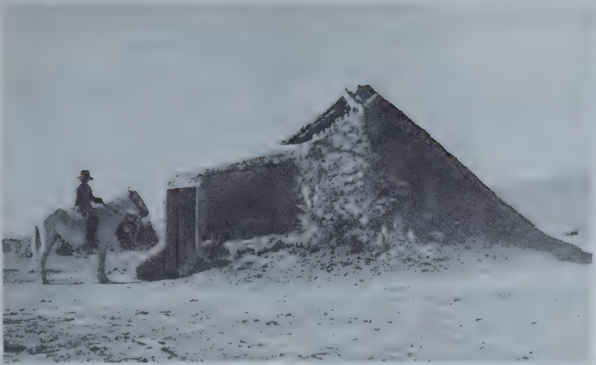
Oil and gas were developed in the northern part of the Navajo area as early as 1907, at which time a well was drilled in the Monument Valley area across the river from Mexican Hat, Utah. Subsequently, a number of wells have been developed.

One of the most important oil fields as far as Navajo economy is concerned is the Rattle Snake oil field in the Shiprock area. On October 15, 1923, an exploratory lease amounting to 4,080 acres was offered for sale at Santa Fe, New Mexico. After having been passed without bid in the forenoon, the lease was offered again in the afternoon and purchased for $1,000. The Santa Fe Company was organized for the development of the property, and in the fall of 1924 the Continental Oil Company acquired an interest in the property and has since been in charge of its operation. The oil field is still in operation and has been one of the principal sources of Navajo Tribal income for many years.

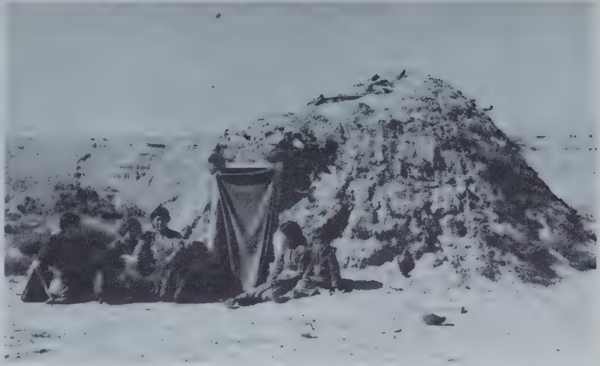
THE NAVAJO PEOPLE

In an effort to provide a small amount of general information relative to traditional Navajo life and culture, we include herewith a few brief comments in regard to housing, social and political organization, dress, religion, etc. The generalizations are too brief and too vague to have any signification aside from providing a minimal quantity of background information to the reader who has had no previous experience with the Navajo Tribe and, we hope, providing a stimulus to seek more detailed information through some of the published material listed in the bibliography.

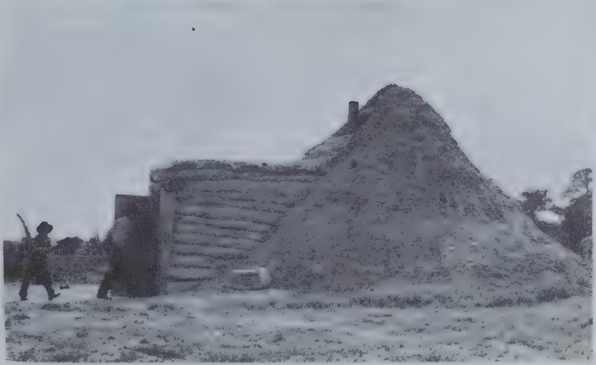
NAVAJO HOUSING TYPES



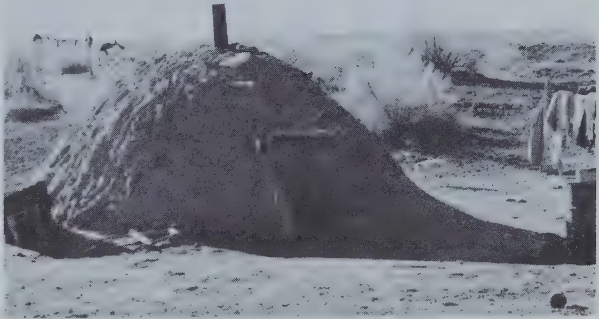
The traditional forked stick hogan with open fireplace and smoke hole.



A primitive dwelling of mud and poles with open fireplace and smoke hole.

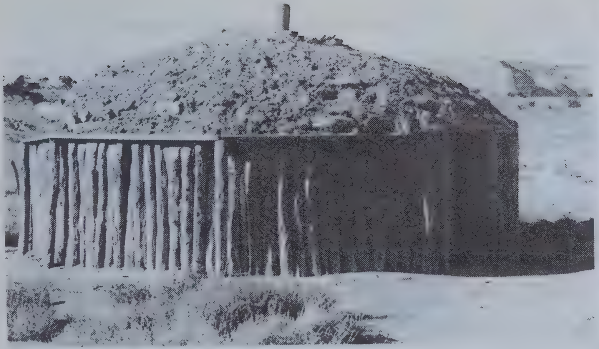


The old-type hogan replaces the open smoke hole with a chimney.

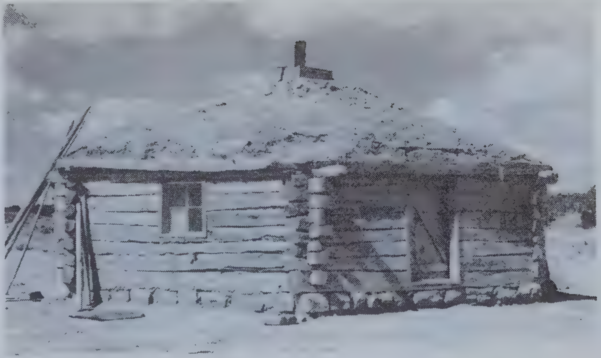


The open fireplace gives way to a stove.

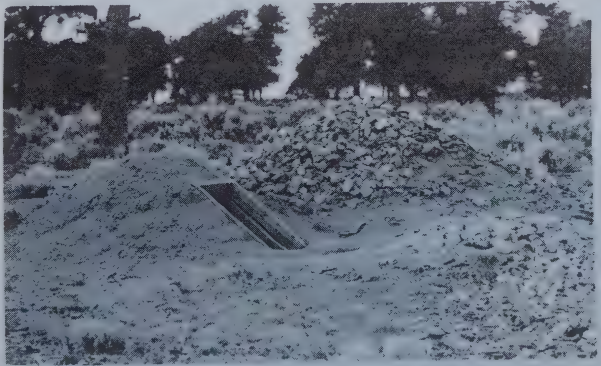
NAVAJO HOUSING TYPES



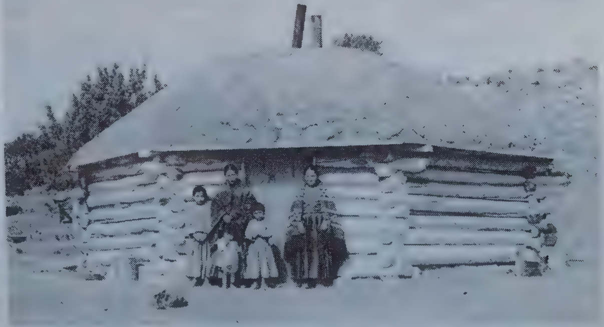
A hogan of upright chinked logs with roof of dirt and logs, complete with stove and chimney.



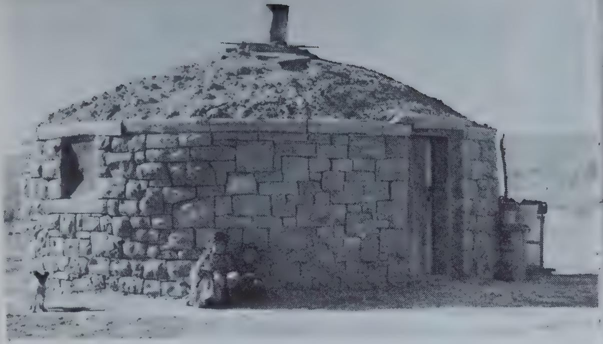
A hogan of cribbed logs, complete with stove, chimney and windows.



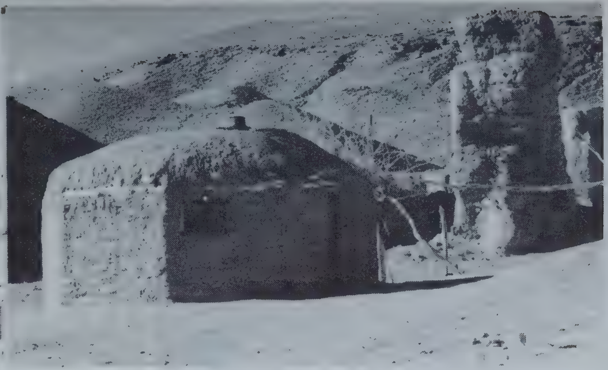
A Navajo sweathouse used for sweatbaths.



A hogan of chinked cribbed logs and dirt roof, with stove and chimney.

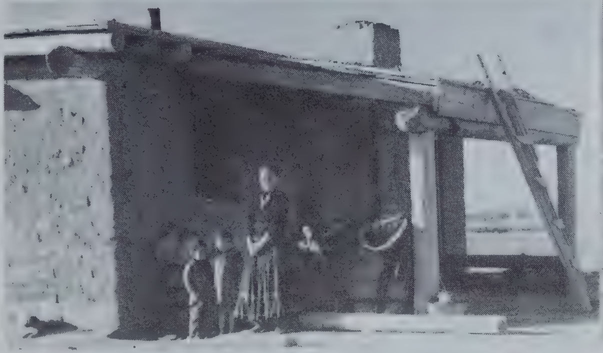


A stone hogan of skillfully joined masonry with windows and stove.

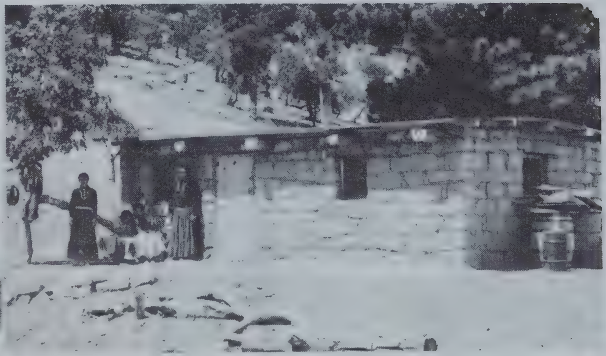


A stone hogan made of small flat rocks, polygonal in shape, and complete with windows and stove.

NAVAJO HOUSING TYPES



A stone house chinked with mud, complete with windows and "front porch" with roof supported by vigas.



Another type of stone house.

HOUSING: The traditional Navajo abode is called a hogan. The hogan is most commonly a circular (hemispherical or conical) structure, with a doorway facing east and a smoke hole in the center of the roof, but lacking windows. The wall is usually of logs, mud or rocks, depending on the availability of one or the other building material, and the hemispherical roof is formed of cribbed logs covered with dirt. The fire is placed on the hard packed dirt floor beneath the smoke hole, and a flap or hinged door covers the doorway. The occupants sleep on sheepskins, lying with their feet to the fire and their heads to the wall. Nowadays many hogans have windows, stoves, chimneys, beds, etc., and, in fact an ever increasing number of Navajos live in houses made of logs, stone, lumber, building blocks, etc.

A small structure, conical in shape, made of upright poles and covered with earth, is used as a sudatory or sweat bath, largely by males. It is heated by placing hot stones within, and provides bath facilities in this area of scarce water.

SOCIAL ORGANIZATION: The term "family" is considerably broader in its application to Navajo society than the biological unit including merely the father, mother and offspring, although the biological family is the basic unit of social organization. Traditionally, when a Navajo man marries he goes to make his home with his wife's relatives, and his biological family becomes one of several such units which live in a group of adjacent hogans, and which are referred to as an extended family. The extended family may include husbands and offspring of the wife's sisters, the parents of one's wife, grandparents, aunts, uncles or other relatives of either spouse, and there may be as many as 20-25 persons included within the group. The members help one another and collaborate in providing a livelihood, and cooperate in connection with birth, death, marriage, sickness, minor ceremonials, etc. Direction is usually given to the cooperative activities of the group by the male member who has the greatest prestige or highest status—the one to whom the group normally looks for leadership.

Within the biological family the woman is in full charge of caring for the offspring, cooking, butchering, caring for the food, and is responsible for discharging all other domestic duties connected with the home. The man hauls wood and water, builds the hogan and corral, provides food, does the heavier work of farming, etc., although the women and children commonly assist in the fields, especially at planting and harvesting times, and help with shearing, lambing, etc. Herding of the sheep usually falls to the children.

The children play a very active role in the economic activities of the family, and are given minor tasks to perform at a very early age. As they grow up they are trained in the care of livestock, in farming and in other aspects of gaining a livelihood, as well as in ethics and tradition, and as they grow they begin to acquire property. The process of transferring livestock and farm land to the children continues until, by the time the parents are advanced in years most such property is in the hands of their offspring, especially their daughters and the latter's husbands. Thus a woman's property normally descends, not to her husband, but to her children. The husband is the guardian of such property, but not the possessor of it.

Sheep or farmland are generally the property of individual members of the family, and may be given away, sold or transferred by the owner under certain conditions, but the proceeds from such property are usually used by the entire group.

A Navajo Silversmith.

A Navajo weaver.

A family group at home.

A little grove makes a cool summer "dining room."

The extended family group, made up of two or more biological families, is a very important aspect of Navajo social organization. It is a cooperating unit, closely bound together by ties of marriage and close relationship, possessing responsible leadership, and identified with specific areas of land use for grazing or other agricultural purposes.

Nowadays the husband often leaves his family for seasonal work on the railroad or in the mines, or a portion of the family group, including men, women and children, may spend several months of the year in the cotton fields and truck gardens of southern Arizona, or the sugarbeet fields of Utah and Idaho, while other members of the group care for the livestock and the farm at home on the Reservation.

The extended family group, in its turn, is an aspect of a larger, although more loosely associated, sociological unit, commonly referred to as a community. There are no communities in the sense of being villages in the Navajo country except as such have grown up around Government schools, hospitals and administrative centers or around missions. Towns or villages are not aspects of Navajo culture itself. However, under the leadership of one or more of the ablest family heads, families and family groups cooperate as members of a community group, tied by bonds of marriage, relationship, adjacent residence, common interest and the like. The community groups can be closely identified with specific areas of land use and residence, and each has its own social structure. They are not formalized nor closely knit units, but they are basic to traditional land use and economy on the Reservation.

Although it still retains an important function in terms of limiting the marriage choice, the Navajo clan has lost many of its historical functions. A person acquires clan membership by the fact of birth into his mother's clan, and cannot marry a member of that clan, a member of a closely related clan, or a member of his or her father's clan, since clan "brothers" and "sisters" are considered in the same manner as blood relatives insofar as marriage is concerned.

Briefly, the foregoing purports to be a sketch of Navajo social organization, and to a great degree, **as a generalization,** it is still true with regional variations, of a majority of the Navajo people. However, the Navajo are undergoing rapid cultural change. Diversification of the Navajo economy, formal schooling, pressures for acculturation and a multitude of allied forces are working toward the individualization of the group. In his traditional society the individual functioned as a member of a group; in the western European society into which he is being integrated he is under pressure to function as an individual. He pays rent on his house, lives by wages instead of the land or by a combination of the two, must live at the location of his wage work all or part of the time, etc. Thus, a generalized description of Navajo social organization must, perforce, fit only a segment of the group and be a highly relative matter:

DRESS: Generally speaking, Navajo men dress in what is commonly known as "western" garb including levis, western shirts, cowboy boots, etc. Some still make and wear excellent moccasins. The women characteristically wear long fluted calico skirts and contrasting velveteen blouses, often with a Pendleton blanket draped over the shoulders. Both men and women commonly wear varying quantities of silver, turquoise, coral and abalone shell jewelry, including earrings, bracelets, rings, necklaces and ornate buttons and belts, especially in public. Some men still wear their hair long, tied in a knot behind their head with white woolen yarn in a style similar to that used by most of the women.

However, a majority of the men nowadays cut their hair, and an increasing number of the younger women cut and curl their hair after the fashion of the white women, and wear conventional dresses or combinations of commercial blouses with the traditional skirt.

POLITICAL ORGANIZATION: About a century ago when the territory occupied by the Navajos became a part of the United States there was no such thing as a Navajo Tribe in a political sense. There were local leaders or headmen as we mentioned in connection with the extended family and community groups, with varying amounts of local persuasive power, but no hereditary chiefs with coercive powers, and no representative governing body with either persuasive or coercive powers over the whole tribe. According to legend there was formerly a tribal political organization called the **naachid,** presided over by twenty four chiefs elected to office for life. Of these, twelve were Peace Chiefs and twelve were War Chiefs. It is said that the **naachid** gathered periodically for ceremonials and council, and the Peace Chiefs or the War Chiefs would dominate the meetings, depending upon circumstances. However, if there was ever indeed such a Tribal organization it was not apparently a potent force in Navajo political life at the time the United States Government entered the picture in 1846.

Treaties were made between the military and the Tribe through the headmen, and administrative personnel attempted to control the Tribe, implement programs and institute policies through the same medium. In fact there was a time when, if designated headmen failed to achieve desired results, they were replaced by puppet "headmen" armed with badges and documentary proof of authority—needless to say, such "leaders" were powerless.

Prior to 1934 the Navajo Reservation was administered through 5 separate agencies (6, including the Hopi-Navajo Agency at Keams Canyon), a fact which did not make for the development of tribal unity. Without a political mechanism for self help, the people as well as their leaders were dependent upon a quasi-paternalistic Superintendent in whose lap they were accustomed to place their problems. In an effort to encourage local communities to seek solutions to their own problems, and as a step toward improved communications between the Navajo people and the Bureau of Indian Affairs, Mr. John Hunter began, in 1927, the development of local community organizations known as Chapters. The first Chapters were established in the Leupp Agency area where Mr. Hunter was then Superintendent, and with his transfer to the Fort Defiance Agency a year later he continued the movement there. Subsequently, Suprintendent Samuel Stacher of the Crownpoint Agency and other Navajo Superintendents took up and spread the Chapter movement. To make the organization even more effective, local Councils were developed within the several agencies, composed of delegates from each of the local Chapters. The development of the Chapters was an early step in the direction of democratic self-government, and the extent to which these institutions found a place in Navajo life is reflected in the fact that they continue in many communities to the present day although they do not currently occupy an **official** position in the Tribal government. However, they are recognized in the proposed Tribal Constitution, and the Tribal Council is encouraging the development of Chapter organizations in communities where there are none. In fact, many of the 80 or more Chapters still active today utilize community meeting houses constructed with materials contributed by the Government and labor donated by the local Indians, and in the past 3 years several communities have built new Chapter houses with materials wholly or partly provided by the Navajo Tribe, or have repaired existing Chapter houses with Tribal assistance.

Before 1923, Navajo Superintendents periodically called Councils of Headmen to discuss matters of program and policy, and from 1910 on there was a growing need for some type of representative Tribal organization empowered to act for and on behalf of the Navajo Tribe, especially in connection with mineral and oil leases. For many years, the Navajo had been controlled largely by military force in keeping with the policy of the times, and to some extent there was perhaps a hope that a new tool for administrative suasion, if not coercion, might be developed in the form of a Tribal Council, the members of which would be expected to produce compliance on the part of the people.

Whatever the motivation may have been, aside from the need for a representative group authorized to act on mining and oil leases and other matters affecting the entire Navajo Tribe, in 1923 Mr. E. D. Merritt, then Acting Commissioner of Indian Affairs, promulgated a set of regulations in accordance with which a Navajo Tribal Council was to be organized. The regulations included a preamble to the effect that "The Navajo Indian Reservation situated in the states of Arizona, New Mexico and Utah, being extensive in area and the number of Indians of said Navajo Tribe having rights therein being numerous and widely distributed in their habitat, and in order to promote better administration of the affairs of the Navajo Tribe of Indians in conformity to law and particularly as to matters in which the Navajo Tribe at large is concerned such as oil, gas, coal and other mineral deposits, tribal timber and development of underground water supply for stock purposes, etc., the following regulations are hereby prescribed and promulgated . . ."

"There shall be created a continuing body to be known and recognized as the Navajo Tribal Council with which administrative officers of the Government may directly deal in all matters affecting the Tribe."

The regulations provided for the establishment of a Council composed of a Chairman, Vice-Chairman and twelve delegates, the latter representing each of the five Navajo jurisdictions and the Hopi. Elected with each of the twelve delegates was an alternate to act in lieu of the regular delegates in the latter's absence. If any area refused or neglected to elect a delegate and an alternate, the regulations provided that the Secretary of the Interior might select one arbitrarily. Terms of office for the Chairman and the Vice-Chairman were designated as four years, but no term was specified for delegates or alternates. Provision was made for the calling of Council meetings by the Commissioner of the Navajo Tribe at times and places to be determined by him. The regulations did not provide for voting by women.

The Navajo scene is changing fast. Sheep-herding, the traditional task of Navajo children . . .

Must nowadays be done by adults. The children are in school.

In 1928 the Council regulations were revised to specify four year terms of office for delegates and alternates, and to give both men and women the right to vote.

Obviously, the early Councils were not democratic functional governing bodies in any sense of the word, nor was the main body of the Navajo people ready for such a radical step at that time. It was a white man's invention.

On June 14, 1934, the Indian Reorganization Act was submitted to a referendum of the Navajo Tribe, and was rejected by a narrow margin in a vote of 7,992 to 7,608. Had the Reorganization Act been adopted, the Tribe would have proceeded to develop a constitutional form of self-government. Despite its rejection, steps were taken to develop a basic constitution, patterned after the IRA forms but without the same legal status, and an improved Tribal Council.

In 1936, a committee was appointed to draw up plans for a larger and more representative Tribal Council. Father Berard Haile led an appointed group to comb the Reservation in search of recognized leaders of great ability and prestige, with the result that 250 names were collected. Each Land Management District was apportioned delegates on the basis of one such representative to each 400 population approximately, and from the list of 250 names, 70 were arbitrarily selected to compose a constitutional assembly, the old Council was dissolved, and a provisional Executive Committee was appointed by the Chairman of the Constitutional Assembly to carry on "routine" Tribal business until the constitution could be completed and a duly elected Council developed.

The constitution was not adopted, and the provisional Council then devoted itself to the development of a mechanism for the election of Council Officers and delegates which, after much deliberation and many redrafts by the Bureau of Indian Affairs and the Department of the Interior, was finally promulgated in 1938 by the Secretary of the Interior under the name "Rules for the Navajo Tribal Council." The first election was held on September 16, 1938.

The Rules for the Tribal Council provided for a governing body composed of 74 members and a Chairman and Vice-Chairman, to be elected every four years by popular vote. The 74 election communities from which the delegates were to be elected were specified, and delegates were apportioned to the several Land Management Districts on the basis of population—approximately one to each 400-550 population. For election purposes the Reservation was divided into four parts, each termed an "Election Province," and in election years the electors in each such Province met to select the Province candidates for the Tribal Council Chairmanship. Voting was accomplished by colored ballots, each candidate being identified by a color. To be elected a candidate required a majority of the votes cast, and the runner-up became the Vice-Chairman. In view of the fact that no single candidate usually received a clear majority of the votes cast, it was usually necessary to hold a run-off election after the main election.

The Rules for the Tribal Council also provided for the establishment of an 18-member Executive Committee, to be composed of one Council Delegate from each District, designated as the Chief Delegate. The Chief Delegates were to be chosen by all of the Delegates in each District, and in the event the District Delegates could not agree among themselves on the choice of a Chief Delegate, the Chairman of the Tribal Council would select one. However, the Executive Committee of the old Council had become identified with the development and approval of the livestock reduction program and the Grazing Regulations promulgated in 1937, and the existence of such a committee was viewed with such suspicion and distrust that, after its reorganization, the Council refused to establish an Executive Committee. To the detriment of many categories of routine Tribal business an Executive Committee was not reestablished until 1947, at which time it was restored in the form of the Advisory Committee.

The Tribal Council as reorganized in 1938 is still constituted along the general lines of the 1938 reorganization, although it has grown enormously in the past 17 years to become a much more genuine tribal government. The old 1938 "Rules" were revised in 1950 to provide a pictorial paper ballot, and for election of candidates on the basis of plurality vote. Also the candidates for Chairman are now chosen by convention delegates representing each of the election communities located in the four Provinces. This latter provision gives each election community an equal voice in the nomination of a Province candidate for the Chairmanship whereas, formerly, when the electors had to be present personally at the nominating convention in order to nominate or support a candidate, those communities situated closest to the Province headquarters were represented at the nominating convention by a disproportionately large number of electors, while more remote communities might go without representation. In addition, the 1950 amendments included a provision whereby the established candidates for the Chairmanship choose their own running mates for the Vice-Chairmanship, and the pair is voted as a unit, as well as a provision for the election of the Judges in the Courts of Indian Offenses in lieu of their appointment.

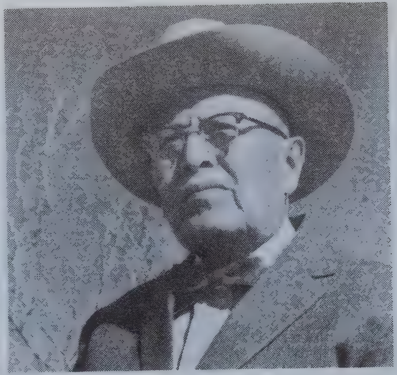
In 1954 it was necessary to again amend the Election procedure to provide for transfer of all responsibility in the conduct of Tribal elections from the Bureau of Indian Affairs to the Tribe itself. Among other provisions, the 1954 amendment established a Tribal Board of Election Supervisors to carry out tribal elections on behalf of the Tribe.

Following World War II, in 1946, a standing committee of 9 Council Delegates and 9 alternates was established to be on hand and constantly prepared whenever the need for a Tribal delegation to Washington might arise in connection with the promotion of a long range rehabilitation program for the Tribe. In 1947-48 the Council began to delegate responsibilities to the Standing Committee and it developed into an Executive Committee under the name of the Advisory Committee. By Council resolution in 1951, a procedure was established for the reelection of the Advisory Committee from within the Council membership and by the Council as a first act of business following each Tribal election. In the course of the past 7 years, with the enormous growth of Tribal responsibility in business and uranium mining, the Advisory Committee has received a great number of delegations of authority from the Tribal Council to act for and in behalf of the latter. The Advisory Committee normally meets for at least a week each month, while the Tribal Council normally meets on a quarterly basis.

Although still not an uncommon sight on the Reservation, the team and wagon . . .

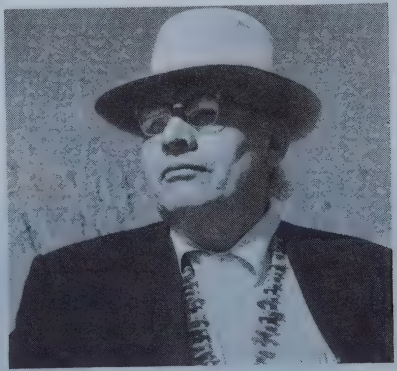
Fights a losing battle for survival against the truck and automobile.

The Navajo Tribal Council House at Window Rock.



Paul Jones, Chairman of the Navajo Tribal Council.

The Navajo Tribal Council in session.



Scot Preston, Vice-Chairman of the Navajo Tribal Council.

In addition to the Advisory Committee, Council Committees on Health and Welfare, Education, Law and Order, Administration, Budget, Trading, Loans, Engineering and Resources have been established, and a Business Management Committee has been developed, the latter outside the Council.

Since the war, the Tribe has taken enormous strides toward the development of a concept of Tribal unity, and toward actual cooperation on a **Tribal** instead of a local basis, through its representative, elected Tribal governing body.

The Long Range Navajo-Hopi Rehabilitation Act which became law in 1950, authorized the Navajo Tribe to develop and adopt, by referendum, a Tribal constitution. A draft of the constitution has been developed and will soon be ready for submission to the Navajo electorate. It defines and formalizes the powers of the Tribe through its Council, and formalizes the structure and powers of the Tribal governing body. As the proposed constitution now stands, the Tribal Government would continue along its present structural lines.

With the establishment of the Indian Claims Commission in 1946, the Navajo Tribe secured the services of Mr. Norman M. Littell of Washington, D. C., as Claims Attorney, and as General Counsel for the Tribe. The Tribe has subsequently developed its own legal department including an Assistant General Counsel, a Legal Advisor, and others. This department is of value to the Tribe in providing necessary legal guidance in the conduct of Tribal business, as well as in developing Navajo claims against the Federal Government.

All in all, the Tribe has successfuly taken over a great burden of responsibiity formerly carried by the Federal Government, and in the course of the past decade has been in the throes of a very rapid social and economic revolution.

LANGUAGE: The Navajo language is a member of the Athabascan family of languages, with relatives in interior Alaska, northern and west central Canada, along the Pacific Coast and in the southwestern portion of the United States, as well as a small group (the Kiowa Apaches) on the Great Plains. In the Southwest (Arizona and New Mexico) are their closest linguistic relatives, the several Apache groups.

Navajo is still the most common language in the Navajo country, in view of the fact that a large proportion of the Navajo population is still unschooled and unable to make effective use of English. Despite the necessity for a continuous development of new vocabulary to express concepts that have come since the advent of Europeans and, more recently, in dealing with highly technical subject matter, the Navajos have borrowed a mere handful of Spanish and English loan words. The Navajo language itself has met the need quite adequately, and has become a very rich medium of expression.

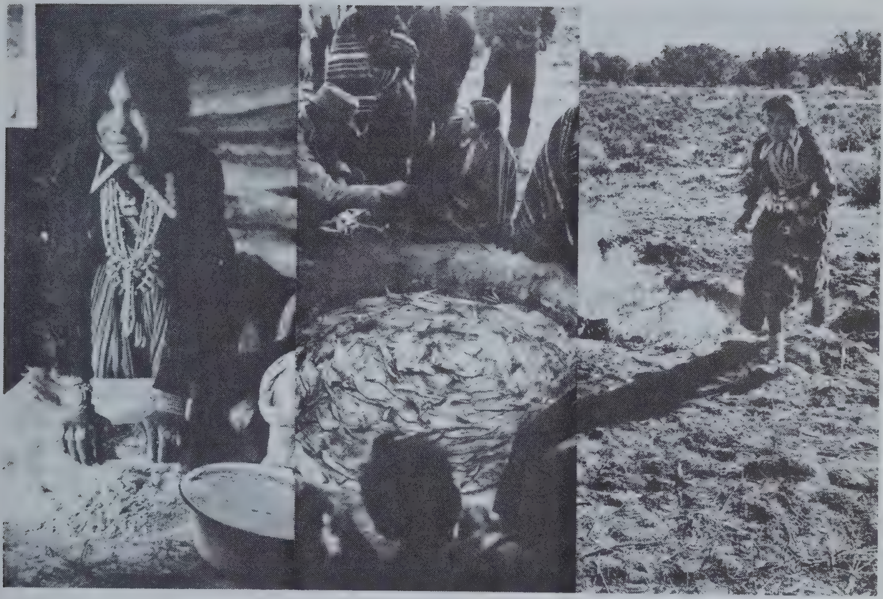
Council and Advisory Committee meetings are bilingual, with an interpreter to translate from one language to the other.

RELIGION: Navajo religion is very complex, and is principally concerned with life, not with preparation for death or an after life. To the traditional Navajo mind there are two types of personal forces in the world, the **nihookaa' dine'e,** or earth people, living or dead, and the **diyin dine'e** or Holy People. The latter belong to the supermatural world and possess powers to harm or benefit the ordinary earth people. The earth people were created by the Holy People following the emergence of the latter from the underworld, and were taught by them how to live and how to protect themselves from evil and misfortune. Man, as an aspect of the total universe, must do his part in maintaining orderliness, harmony and proper balance, for disorder and imbalance are manifested in illness and misfortune. Navajo religion, in the form of its multiple ceremonials, is the medium through which man maintains harmony with the universe or restores it when it is momentarily lost. Violation of Tribal taboo in coming in contact with a corpse, for example, may mean that the violator will be attacked by the evil spirit of the corpse. To prevent the evil spirit's return after death, the corpse must be properly disposed of. Also the evil doing of witches and wizards must be offset through prescribed ceremonials. If a person falls ill he will likely contact a diagnostician who by a process of hand-trembling, listening or gazing will discover the cause of illness and prescribe the proper ceremonial from a set of more than fifty which are carried on by specially trained medicine men whom the Navajos call "singers." Many years of training and apprenticeship are necessary to learn the complex prayers, songs and sand paintings associated with the various ceremonies.

The larger ceremonials are expensive and usually represent a great cooperative effort on the part of a person's family and relatives.

Thus, to the traditional Navajo mind his religion is a life way aimed principally at goals of good health, contentment and prosperity. In former times it was closely associated with nearly every aspect of life from the major events of birth, marriage, illness, and death to economic undertakings, war and trade. Today, in a changing Navajo society where the white man's medicine has entered the scene, where the social and economic life of the people is undergoing radical change, and where the white man's religion is being spread through many missions, the traditional religion is declining. To an extent, it no longer fits as well into the life-way of the people as it did in former times—certain songs, prayers and rituals designed to assure prosperity and abundance from livestock are not transferable to truck driving, railroad work and carpentry. To an increasing extent, medicine men are not sufficiently well trained in the ceremonies to carry them out properly and, with the increase in school enrollment there will be less young men willing and able to devote the time necessary to acquire the ceremonies in future years. The larger ceremonies, attended by large gatherings, have always had a social and recreational aspect and to an increasing degree the latter aspect overshadows the religious. In short, like other elements of traditional Navajo culture, the religion is in the process of change.

In the course of this social change, a new religious movement has gained considerable ground on the Reservation during the past twenty years or so. An amalgam of Christian concepts, Plains Indian and other ritual and influence, it is known as the Native American Church, or more commonly as peyotism since it is characterized by the use of the fruit of the peyote plant—the peyote "button"—more or



At puberty a girl is ushered into society by a special ceremony. Adorned with jewelry she performs certain ceremonial acts, including the grinding of corn meal on a stone metate. This task must be done each day for 3 days, although she is usually assisted by other women, either family members or relatives.

The corn meal, ground in the 3 preceding days, is made into a batter and poured into the heated pit at sunset of the last day. It is sweetened with sugar, honey or syrup nowadays, and the bottom and sides of the pit are lined with moistened corn husks turned rough-side up to keep the cake clean and prevent sticking. After the batter is poured the initiate tosses some of the ground meal from a basket she holds to each direction, as an offering, accompanied by a silent prayer. Others may follow suit to make a similar offering from her basket, praying out loud as they throw the meal. The cake is finally covered with husks, moist and dry dirt, ashes and fire to bake. The cake is uncovered after the last dawn run on the morning of the 4th day, and each medicine man who parcipated during the last night receives a piece, and the remainder is distributed to other participants, family members, neighbors, etc.

Each day at noon the initiate takes a run in addition to the runs she takes on each of four mornings at dawn. Her first run takes place on the morning following her first noon run, and the last dawn run is made on the morning following the 4th night ceremonial during which various medicine men "sing" over her. Although usually accompanied on her runs by others, she is here running alone past the fire-pit, dug on the morning of the 3rd day, in which her puberty cake will be baked on the last night of the ceremony. (Photos by LIFE Photographer Leonard McCombe, (C) 1948, TIME, Inc., used by special permission of LIFE MAGAZINE.)

less in the form of a sacrament. In 1941 the Tribal Council prohibited the use, sale, barter and introduction of peyote into the Navajo Reservation on the premise that it contains a harmful narcotic. However, the Tribal Resolution has not been enforced, and the effects of the drugs contained in the peyote button are still a subject of controversy.

HISTORICAL: Navajo legend and tradition, the "Genesis" of the people, trace their origin in the underworld, their Emergence somewhere north of the present Reservation, the origin of the clans, their prehistoric wanderings and way of life. Recorded history perhaps begins with a Spanish document dating from 1626, although the approximate date of Navajo entry into the Southwest remains a moot question. A great deal of new light will no doubt be shed on the subject of Navajo prehistory as a result of the painstaking work in that connection being completed under the able direction of Richard Van Valkenburg, Consulting Archaeologist to the Navajo Tribe, as a basis for Navajo claims.

On the basis of available knowledge, before the advent of Europeans the Navajos lived by gathering seeds and berries, by hunting, by occasional rudimentary agriculture and raiding. The family group was no doubt the basic economic unit in this semi-nomadic way of life. Some time, probably in the 17th century, the horse and the sheep were introduced into Navajo life, with revolutionary results. The horse provided mobility and greatly expanded opportunities for hunting, food gathering and raiding—the sheep provided a stable food supply, and changed Navajo society from a hunting and gathering to a pastoral culture. Although never nomadic in the sense of aimless continual wandering, the Navajo people have been characterized by mobility—a mobility required by the seasons and the availability of food and forage which fluctuates with climatic conditions in the course of the year. Family movements were confined to well defined areas of seasonal residence and, during the planting and growing season they usually remained in the locality where they had their fields.

The acquisition of sheep not only changed the way of life of the Tribe from a hunting and gathering economy—a hand to mouth existence in which there was little or no opportunity or incentive to accumulate wealth—but introduced the opportunity to accumulate property, a fact which encouraged trade and brought the Tribe a long step toward the money economy that has rapidly become a reality for the people in their transition from a pastoral-barter economy to a wage economy.

It was the mobility of the Navajo that brought them into conflict with the Spanish, Mexican, and United States governments in the efforts of the latter to maintain order. The Navajos raided the settlements and dispersed in the face of punitive expeditions sent against them, expanding westward to separate themselves from the growing pressure of the European colonial population, and to find the additional range required by their increased flocks.

The Spanish-Mexican period was characterized by an almost constant internecine warfare between the Navajos and the European settlers, characterized by raids in which both sides took slaves and livestock.

In 1864 the United States government forced the majority of the Navajo Tribe into submission by a systematic destruction of crops and livestock, and took the captives to Fort Sumner, New Mexico, where an attempt was made to convert them to a sedentary agricultural way of life. The effort failed miserably and in 1868 a treaty was drawn up between the United States government and the Navajo Tribe whereby they were returned to a less than 3½ million acre fraction of the land they previously occupied. Subsequent to their return a total of 35,000 sheep and goats were issued to them to give them a new start in the old pastoral life. The Reservation boundaries meant nothing to the Navajos, however, and they dispersed to re-occupy many of the areas they had used before the Fort Sumner exile. To some extent, those areas were subsequently annexed to the Reservation by a series of Executive Order Extensions and Acts of Congress during the period 1878-1934. By 1938, the Reservation included an area of approximately 15,000,000 acres, and the Navajo population had increased from an estimated maximum of 12,000 in 1868 to over 40,000. The density of population, both human and livestock, increased rapidly and the land base slowly, with the result that overgrazing upset the delicate balance nature had established in the semi-arid southwest and erosion resulted with the destruction of the resources upon which the human population was dependent for a livelihood.

To control overgrazing and halt destruction of the range, the government initiated a livestock reduction program in 1933, and a short time later developed a set of regulations for the control of grazing, livestock population and distribution. Statistical information provided on page **116** shows the course and effect of the stock reduction program over a period of years. The Navajo people, their security threatened, fought the reduction program bitterly. The majority were uneducated, and unprepared to make a livelihood without livestock; they had little previous experience in wage work and the management of money. Nevertheless, during the stock reduction period, large numbers of Navajos made a living from wages received in employment with the Public Works Administration, the Civilian Conservation Corps, the Soil Conservation Service, etc., on the Reservation.

With the coming of World War II, agriculture, industry and the railroads provided a new labor market to which great numbers of Navajos flocked, not to mention an estimated 3,600 who found their way into the armed forces. Not only did a large part of the population have, for the first time, an opportunity to visit and live in areas remote from the Reservation and under conditions radically different from those to which they were accustomed, but they were introduced to the wage economy, customs and requirements of the outside world.

With the close of the war, the wage work to which many Navajo families had become accustomed, and upon which they were dependent, came to an abrupt end. They were suddenly forced back to the meager reservation resources which, in many instances, had become depleted through neglect during the war years. Some families had only empty livestock permits; many had only a handful of stock. It had been known for over two decades that the Reservation resources were not sufficient to support the population with anything approaching a decent standard of living, but in the period immediately following the end of the war, the plight of the Navajos was suddenly discovered by the American public. Something had to be done promptly if the problems of this group of Americans were to be solved, and it was apparent to both the Federal Government and the Tribe that whatever might be done, it must be on a long range basis. Emergency relief measures were not the answer. If the Reservation was to support even half of the population, its resources, agricultural, mineral, human and other, had to be developed to the greatest extent possible; education had to be provided, and employment or relocation opportunities developed outside the Reservation.

Accordingly, after careful study and consideration, a Long Range Program for the Rehabilitation of the Navajo and Hopi Tribes was enacted into law by Congress in 1950, authorizing the appropriation of a total of $88,570,000 over a 10-year period. The achievements to date with funds appropriated to accomplish the objectives of the Long Range Program are set forth in the main body of the present report.

THE UNITED STATES INDIAN SERVICE

A Sketch of the Development of the Bureau of Indian Affairs and of Indian Policy.(1)

From early colonial times until 1871 the British, the Colonial and later the United States government looked upon Indian Tribes as sovereign nations, to be dealt with by treaty or through the medium of a diplomatic service. With their numerical inferiority in early times, the position of the colonists was precarious and, although an effort was made to regulate relations between themselves and the Indians in the interest of peace, no attempt was made to govern the internal affairs of the Tribes. Before adoption of the United States Constitution, and just after the close of the French and Indian War, two Superintendencies of Indian Affairs were established, the jurisdictions of which corresponded to the areas occupied by the Northern and the Southern Colonies, respectively. The Superintendents functioned as ambassadors of a foreign power, charged with the duty of observing events, negotiating treaties and generally maintaining peaceful relations between the Indians and the border settlers.

As the years passed a transition gradually took place in the course of which the colonies grew into a nation and the balance of power shifted from the Indians to the Whites, creating across the years a changing pattern of relationships between the two groups. That changing pattern is amply reflected in the development, composition and function of the United States Bureau of Indian Affairs, with the varied policies, attitudes and objectives that characterized it in its effort to cope with the ever-changing problem of Indian relationships through the years.

One of he first Acts of the Continental Congress, on July 12, 1775, was to declare its jurisdiction over Indian tribes by creating three departments of Indian Affairs, a Northern, a Southern and a Middle department, with Commissioners at the head of each charged with duties comparable to those of the earlier Superintendents. The men first named to these offices were Benjamin Franklin, Patrick Henry and James Wilson, an indication of the importance in which the positions were held.

On August 7, 1786, the Congress of the Confederation established two departments, the Northern — north of the Ohio River and west of the Hudson River, and the Southern — south of the Ohio River, with a Superintendent at the head of each reporting to the Secretary of War. Each of the two Superintendents had the power to grant licenses to trade and live with the Indians.

On August 7, 1789, the War Department was established, and the subject of Indian Affairs continued as a responsibility of the Secretary of War. The First Congress and the First President recognized the need for remedying the problems created by conflict between Indian and White interests, serious even then, and Congressional policy was set forth in Article 3 of the Act of August 7, 1789, to the effect that "The utmost good faith shall always be observed towards the Indians; their land and property shall never be taken from them without their consent; and in their property, rights and liberty, they shall never be invaded or disturbed, unless in just and lawful wars authorized by Congress; but laws founded in justice and humanity shall from time to time be made, for preventing wrongs being done to them, and for preserving peace and friendship with them."(2)

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(1) Adapted from Handbook of Federal Indian Law by Felix S. Cohen, publ. 1945 by Government Printing Office, for period to 1935. Chapters 2-4, inclusive.

In 1789, the Congress appropriated $20,000 for the purpose of negotiating and trading with Indian tribes, and in 1790 it passed an Act for the purpose of regulating trade and intercourse with Indian tribes. The latter provided for the licensing of Indian Traders, and conferred extensive regulatory powers on the President. During the period 1796 to 1822 trading houses were maintained under Government ownership for the purpose of supplying Indians with necessary goods at a fair price, and for the purpose of offering a fair price for Indian furs in exchange. The Agents in charge of the trading houses were appointed by the President and were responsible to him. In 1806 the office of Superintendent of Indian Trade was established, whose duties included the purchase and charge of all goods intended for trade with the Indian nations.

In 1822 the office of Superintendent of Indian Trade was abolished, and Secretary of War Calhoun created the Bureau of Indian Affairs by order of March 11, 1824, placing at its head Mr. Thomas L. McKenney, who formerly had been Superintendent

(2) Some insight into early frontier attitudes toward, and relationships with, the Indian Tribes is provided by Isaac Weld, Jun., who visited the States and parts of Canada in 1795, 1796 and 1797, and whose letters were published in London in 1807 under the title of "Travels Through the States of North America and the Provinces of Upper and Lower Canada during the years 1795, 1796 and 1797 (pp. 199-201).

"Acceptable presents are generally found very efficacious in conciliating affections of any uncivilized nation: they have very great influence over the minds of the Indians; but to conciliate their affections to the utmost, presents alone are not sufficient; you must appear to have their interest at heart in every respect; you must associate with them; you must treat them as men who are your equals, and in some measure, even adopt their native manners. It was by such steps as these that the French, when they had possession of Canada, gained their favour in such a very eminent manner, and acquired so wonderful an ascendency over them. The old Indians still say, that they never were so happy as when the French had possession of the country; and, indeed, it is a very remarkable fact, which I before mentioned, that the Indians, if they are sick, if they are hungry, if they want shelter from a storm, or the like, will always go to the houses of the old French settlers in preference to those of the British inhabitants. The necessity of treating the Indians with respect and attention is strongly inculcated on the minds of the English settlers, and they endeavor to act accordingly; but still they cannot banish wholly from their minds, as the French do, the idea that the Indians are an inferior race of people to them, to which circumstance is to be attributed the predilection of the Indians for the French rather than them; they all live together, however, on very amicable terms, and many of the English on the frontiers have indeed told me, that if they were but half as honest, and as well conducted towards one another as the Indians are toward them, the state of society in the country would be truly enviable.

On the frontiers of the United States little pains have hitherto been taken by the Government, and no pains by the people to gain the good will of the Indians; and the latter, indeed, instead of respecting the Indians as an independent neighbouring nation, have in too many instances violated their rights as men in the most flagrant manner. The consequence has been, that the people on the frontiers have been involved in all the calamities that they could have suffered from a vengeful and cruel enemy. Nightly murders, robberies, massacres, and conflagrations have been common. They hardly ventured to stir, at times, beyond the walls of their little habitations; and for whole nights together have they been kept on watch, in arms, to resist the onset of the Indians. They have never dared to visit their neighbours unarmed, nor to proceed alone, in open daytime on a journey of a few miles. The gazettes of the United States have daily teemed with the shocking accounts of the barbarities committed by the Indians, and volumes would scarcely suffice to tell of the dreadful tale.

It has been said by persons of the States, that the Indians were countenanced in committing the enormities by people on the British frontiers, and liberal abuse has been bestowed on the government for having aided, by distributing amongst them guns, tomahawks, and other hostile weapons. That the Indians were incited by presents, and other means, to act against the people of the colonies, during the American War, must be admitted; but that, after peace was concluded, the same line of conduct was pursued toward them, is an aspersion equally false and malicious. To the conduct of the people of Indian Trade. Mr. McKenney's new duties included the administration of the "Civilization Fund" established by Act of Congress on March 3, 1819, to provide a permanent annual appropriation of $10,000 for the express purpose of "introducing among the Indians the habits and arts of civilization." This Act was not repealed until 1873.(3)

Between 1824 and 1832, confusion appears to have reigned in the conduct of Indian Affairs, but by Act of July 9, 1832, Congress authorized the President to appoint a Commissioner of Indian Affairs to manage all matters arising out of Indian relations. He was subject to the direction of the Secretary of War and to regulations prescribed by the President, and in 1834, an Act was passed to provide for the organization of a Department of Indian Affairs. This Act provided for the employment of Agents, Sub-Agents, Interpreters and other employees, and was, to a large degree, a reorganization of the field force of the War Department with relation to Indian Affairs.

The Act of March 3, 1849, established the Home Department of the Interior, and the Bureau of Indian Affairs at that time passed from military to civil control. The Act provided that "the Secretary of the Interior shall exercise the supervisory and appellate powers now exercised by the Secretary of the War Department, in relation to all the Acts of the Commissioner of Indian Affairs." After 1849 Congress debated for years whether or not to transfer the Indian Bureau back to the War Department.

In 1869, an effort was made to correct mismanagement in the purchase and handling of Indian supplies through the creation of a Board of Indian Commissioners which was to be appointed by and to report to the President. It was to be composed of not more than 10 men serving without compensation, and was to exercise joint control with the Secretary of the Interior. This board was not abolished until 1933 when on Executive Order of May 25 was issued to provide that the affairs of the board be terminated and that its records, property, and personnel all be transferred to the supervision of the Secretary of the Interior. Since that time the Secretary of the Interior has supervised public business relating to Indians, the management of Indian Affairs, and all matters arising out of Indian relations.

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of the States themselves alone, and to no other cause, is unquestionably to be attributed the continuance of the warfare between them and the Indians, after the definitive treaty was signed. Instead of them taking the opportunity to reconcile the Indians, as they might easily have done by presents, and by treating them with kindness, they still continued hostile toward them; they looked upon them as indeed they still do, merely as wild beasts, that ought to be banished from the face of the earth; and actuated by that insatiable spirit of avarice, and that restless and dis-satisfied turn of mind, which I have so frequently noticed, instead of keeping within their territories, where millions of acres remained unoccupied, but no part, however, of which could be had without being paid for, they crossed their boundary lines, and fixed themselves in the territory of the Indians, without ever previously gaining the consent of these people. The Indians, nice about their boundary line beyond any other nations, perhaps, in the world, to have such extensive dominions in proportion to their numbers, made no scruple to attack, to plunder, and even to murder these intruders, when a fit opportunity offered. The whites endeavoured to repel their attacks, and shot them with as much unconcern as they would either a wolf or a bear. In their expeditions against the white settlers the Indians frequently were driven back with loss; but their ill success only urged them to return with redoubled fury, and their wellknown revengeful disposition leading them on all occasions to seek blood for blood, they were not merely satisfied with murdering the whole families of the settlers who had wounded or killed their chiefs or warriors, but oftentimes, in order to appease the manes of

[3] This was the first general appropriation for the purpose of Indian education, although the Continental Congress, on July 12, 1775, appropriated $500 for the education of Indian youth at Dartmouth College, New Hampshire.

Mr. Elbert Herring became the first Commissioner of Indian Affairs in 1832, and during the 123 years ensuing to the present time, the post has been held by about 36 individuals representing a wide range of variation in their outlook upon the responsibilities of that office. To a great extent their views, as set forth in their official and unofficial writings, express the ups and downs of our own history of national expansion, as well as the variations in policy developed and applied over more than a century in our attempts to solve changing Indian problems. The Indian Service began as a diplomatic service to manage negotiations between the United States Government and the Indian tribes, the latter considered as domestic dependent nations, and by a gradual process of jurisdictional aggrandizement on the one hand and voluntary surrender of Tribal powers on the other, the Indian Service reached a point at which nearly every aspect of Indian life was subject to the almost uncontrolled discretion of its officials. Only in recent years has this approach to the administration of Indian Affairs undergone radical change.

The reports of the Commissioners of Indian Affairs from the time at which the Bureau was established to the present provide a graphic account of changing policies, and provide an excellent commentary on the attitudes and philosophies of the American people relative to Indian problems from 1825 to the present. In 1825 Mr. Thomas L. McKenney, as head of the Office of Indian Affairs, wrote to the effect that it was the policy of the Government to guarantee "lasting and undisturbed possession" of new lands in the Indian country beyond the boundaries of Missouri and Arkansas to those Indians whose land titles had been extinguished and who had decided to move westward in an attempt to re-establish themselves rather than try to stand against the tide of White expansion. This was a period when our nation was growing, and when White men were seeking new lands beyond the frontiers — lands to which Indian groups had formerly held title, in many instances by treaty. The Indians were induced, by various means to relinquish their lands and move westward, and under Jacksonian policy the Government relied heavily on the use of the military to accomplish removal of those who elected not to do so voluntarily.

Educational policy of the period was aimed at the "civilization" of the Indian, largely through manual training, agriculture and "the mechanic arts." As early as 1826, the head of the Indian Bureau urged an increased appropriation for Indian education in the belief that increased school facilities would ultimately be more effective than the military in achieving the objectives of a peaceful relationship with the Indian. However, effective education and the bodily removal of entire Indian tribes from their traditional home land did not always stand in a complimentary relationship to each other.

In 1851, Commissioner Luke Lea wrote to the effect that "on the general subject of the civilization of the Indians, many and diversified opinions have been put forth;

their comrades, they crossed their boundary line in turn, and committed most dreadful depredations amongst the peaceful white inhabitants in the States, who were in no manner implicated in the ill-conduct of the men who had encroached upon the Indian territories. Here also, if they happened to be repulsed, or to lose a friend, they returned to seek fresh revenge; and as it seldom happened that they did escape without loss, their excesses and barbarities, instead of diminishing, were becoming greater every year. The attention of the government was at last directed towards the melancholy situation of the settlers on the frontier, and the result was, that Congress determined that an army should be raised, at the expense of the States, to repel the foe."

but, unfortunately, like the race to which they relate, they are too wild to be of much utility. The great question, how shall the Indians be civilized, yet remains without a satisfactory answer. The magnitude of the subject, and the manifold difficulties inseparably connected with it, seem to have bewildered the minds of those who have attempted to give it the most thorough investigation."

Commissioner Lea went on to point out that he believed that the civilization of the Indian should provide for "their concentration, their domestication and their ultimate incorporation into the great body of our citizen population."

As the economic requirements of the White population grew the land holdings of the Indian tribes were reduced to Reservations, and the latter gradually shrank in size as the westward expansion of our new nation progressed. White men, interested in intensive agricultural use of the land, could not see the justification of Indian tenure of large areas for purposes of hunting and small scale farming. Consequently, Commissioner Lea felt that it would be preferable to concentrate Indian tribes to facilitate the assimilatory process to which he referred as "civilization." His recommendation that Indians be ultimately incorporated into the citizenry of the country was a marked departure from the previous policy of removal and segregation.

Domestication of Indians was accepted as a part of our policy when, in 1853, Commisisoner Manypenny objected to the practice of permitting Indian tribes to retain portions of their Tribal domain as Reservations after selling or otherwise relinquishing a major part. He said, "with but few exceptions, the Indians were opposed to selling any part of their lands, as announced in their replies to the speeches of the Commissioner. Finally, however, many Tribes expressed their willingness to sell, but on the condition that they could retain Tribal Reservations on their present tracts of land." He was of the opinion that, rather than retain Tribal Reservations, the Indians should take up individual farms and thus become "domesticated." No consideration was given to the fact that many such groups had not been traditionally conditioned by their own ways of life to facilitate easy transition to an existence patterned after that of the White farmer. At first, the stream of White migration had been content to push the Indian before it, but by 1850 it had begun to bypass him, surrounding and engulfing him. The practice of removal and resettlement of Indian tribes on Reservations beyond the frontier was rapidly becoming impractical, a fact which only intensified the question of what to do about the Indian. Further, as the White men swarmed westward, the conviction grew, on the part of the American public, that lands previously reserved to Tribes that had removed themselves from territory formerly held in the east, should be whittled down to a size commensurate with the actual needs of the group. "Reservations should be restricted so as to contain only sufficient land to afford them a comfortable support by actual cultivation," wrote Commissioner Denver in 1857, "and should be properly divided and assigned to them, with the obligation to remain upon and cultivate the same."

Up to the Civil War period, the national policy in dealing with Indian tribes was based on treaty, with the Tribes considered as independent nations.(4) However, during and after the Civil War this policy was replaced with one based on the premise that Indians are objects of national charity and without legal rights. Writing in 1862, Secretary of the Interior Caleb B. Smith pointed out that Indian tribes have none of the elements of nationality, and that they reside within an area under the jurisdiction of the United States. "The rapid progress of civilization upon this continent will not permit the lands which are required for cultivation to be surrendered to savage tribes for hunting grounds," he stated. "Indeed, whatever may be the theory, the Government has always demanded the removal of the Indians when their lands were required for agricultural purposes by advancing settlements. Although the consent of the Indians has been obtained in the form of treaties, it is well known that they have yielded to a necessity to which they could not resist. A radical change in the mode of treatment of the Indians should, in my judgement, be adopted. Instead of being treated as independent nations they should be regarded as wards of the Government, entitled to its fostering care and protection. Suitable districts of country should be assigned to them for their homes, and the Government should supply them, through its own Agents, with such articles as they use, until they can be instructed to earn their subsistence by their labor."

During the period from 1863 to 1876, Indians were in the process of being established on Western Reservations, and the Commissioners turned their attention to problems of permanent policy and administration. The main question in connection with Indian affairs centered about the advisability of continued treaty making, the proper role of the military, reorganization of the Indian Bureau, development of a means for individualizing and controlling the Indian, and the question of the present rights and the future prospects of the conquered people. The system of treaty making was abandoned in 1871, and was replaced by a system of agreements between the Government and the Indians. It was urged that even these be discarded since, in many instances, Tribal government had completely broken down. Indeed, under the budding policy of paternalism, power and authority had passed to the Agents sent to control the various groups, and to care for them as wards of the Government, with a result that Tribes no longer possessed many of the characteristics of independent political entities. Confined to their Reservations, the Indians were rapidly becoming almost totally dependent upon the Government, and that paternalistic relationship was being fostered as an answer to the problem of what to do with our Indian minorities. Where Indians did not immediately show themselves inclined to accept the paternalistic relationship between themselves and the Government, use of the military was sometimes advocated. In fact, in 1873, Commissioner Edward P. Smith urged that troops be made available on the Sioux Reservations "to enable the Agents to enforce respect for their authority, and to conduct Agency affairs in an orderly manner." And this in the face of a treaty with the Sioux in which the United States had agreed to send no troops beyond the Reservation line.

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[4] The first treaty between the United States and an Indian Tribe was that concluded with the Delaware Indians on September 17, 1778 (7 Stats., 13).

The Act of March 3, 1871 (16 Stats., 556) provides in part: "That hereafter no Indian Nation or Tribe within the territory of the United States shall be acknowledged or recognized as an independent nation, tribe or power with whom the United States may contract by treaty: PROVIDED FURTHER, that nothing herein contained shall be construed to invalidate or impair the obligations of any treaty heretofore lawfully made and ratified with any such Indian Nation or Tribe.

With regard to the status of Indian treaties, the Supreme Court held them to be substantially of no greater force or effect than an Act of Congress. In the case of Lone Wolf v. Hitchcock (187 U. S., 566) the Court held that: "The power exists to abrogate the provisions of an Indian treaty, though presumably such power will be exercised only when circumstances arise which will not only justify the Government in disregarding the stipulations of the treaty, but may demand, in the interest of the country and the Indians themselves, that it should do so. When, therefore, treaties were entered into between the United States and a tribe of Indians it was never doubted that the power to abrogate existed in Congress, and that in a contingency such power might be availed of from considerations of government policy, particularly if consistent with perfect good faith toward the Indians." (From Bulletin 12, Office of Indian Affairs, 1926 reprint, "The American Indian and Government Indian Administration," by Assistant Commissioner Edgar B. Merritt.)

When the Indian was established on one of the Reservations his movements were confined to that area, but insofar as posisble he could retain his traditional way of life. He could retain the religious, linguistic, and other cultural characteristics that served to distinguish him, but often he found it impossible to gain his livelihood after the traditional pattern. The hunting tribes of the Great Plains, for example, could no longer follow the herds of buffalo. As a result the Government found it necessary to feed the Indian populations on many Reservations to prevent their starvation and preclude the possibility of rebellion. The Indians of course soon came to be dependent upon direct relief and, in the words of a contemporary, "seeing no future for themselves in the area to which they had been relegated, they passed their time in idleness. Many knew nothing of agriculture, and the old economic base had been extinguished with such suddenness that they did not have the time necessary for gradual adjustment to the changed environment. For obvious reasons the weak and impotent tribes received the least, while those groups that still possessed a war potential were the most generously appeased.

In 1872, after the so called "feeding" policy had been in effect for about three years, Commissioner of Indian Affairs Walker defended it and defended the Reservation system by pointing out that "there is no question of national dignity, be it remembered, involved in the treatment of savages by civilized powers. With wild men, as with wild beasts, the question of whether in a given situation one shall fight, coax, or run, is a question merely of what is easiest and safest." He discussed further the function of the Reservation to the effect that "the Indians should be made as comfortable on and as uncomfortable off, their Reservations as it was in the power of the Government to make them, that such of them as went right should be protected and fed, and such as went wrong should be harassed and scourged without intermission. Such a use of the strong arm of the Government is not war, but discipline."

Traditional land tenure on the part of Indian groups was not based on individual ownership of specific tracts of land. More generally, Indians occupied areas of land as tribal entities, holding or controlling the areas in common. When such tribes were settled on reservations, they continued to utilize the land in common. On the other hand, the White men, feeling a pride in individual ownership, and being historically conditioned to intensive, individual agricultural pursuit as a basic way of life, were convinced that the Indian could not be "civilized" until he too came to share that pride of individual ownership, and adopted intensive cultivation of the soil as a basic way of living. The belief was held that the Indian should be "individualized" as rapidly as possible through a process of allotment of the Reservation lands in severalty, to thus break up the communally held Reservations into individual holdings. This technique for "individualization" of the Indian allowed, as a by-product, a considerable amount of surplus land in many instances, available for other purposes after Indian applicants on the Reservations had received their individual allotments. In fact, the reduction of Indian Reservations gained momentum to such an extent that, in the year 1890 alone, more than 17,400,000 acres, or about 1/7th of all remaining Indian land, was acquired by the Federal Government. The process of breaking up the reservations was justified on the basis that those areas had originally been given to the Indians to meet their needs as non-agricultural peoples, and that they no longer required such large areas in view of the emphasis being placed on intensive agriculture.

The problem of the consolidation and sale of surplus lands on Reservations had already appeared in 1872. Commissioner Walker stated that "the Reservations granted heretofore have been generally proportioned, and rightly so, to the needs of the Indians in a roving state, with hunting and fishing as their chief means of subsistence, which condition implies the occupation of a territory far exceeding what could possibly be cultivated. As they change to agriculture, however rude and primitive at first, they tend to contract the limits of actual occupation. With proper administrative management the portions thus rendered available for cessation or sale can be so thrown together as in no way to impair the integrity of the Reservation. Where this change has taken place, there can be no question of the expediency of such sale or cession. The Indian Office has always favored this course, and notwithstanding the somewhat questionable character of some of the resulting transactions, arising especially out of violent or fraudulent combinations to prevent a fair sale, it can be confidently affirmed that the advantage of the Indians has generally been subserved thereby."

However, despite the magnitude of the Indian problem, for many years the Government had sought to economize by providing very low salaries for Indian Service personnel, and very small appropriations for Education and other services. In 1882, Commissioner Price urged that the Government pay the salaries necessary to attract capable men to the Administration of Indian Affairs. "Paying a man as Indian Agent $1200 to $1500, and expecting him to perform $3,000 to $4,000 worth of labor, is not economy," the Commissioner pointed out, "and in a large number of cases it has proven to be the worst kind of extravagance." In the same report Mr. Price speaks of education to the effect that "if one million dollars for educational purposes given **now** will save several million in the future, it is wise economy to give that million at once, and not dole it out in small sums that do but little good."

Writing in 1881, Commissioner Hiram Price, a business man, expressed a viewpoint quite counter to that expressed by most of his predecessors in terms of educational philosophy, and one which is remindful of a period a half century later. Commissioner Price said "It is as common a belief that the boarding should supersede the day school as it is that training schools remote from the Indian country ought to be substituted for those located in the midst of the Indian. But I trust that the time is not far distant when a system of district schools will be established in Indian settlements which will serve not only as centers of enlightenment for those neighborhoods, but will give suitable employment to returned students, especially the young women, for whom it is especially difficult to provide."

The General Allotment Act became law on February 7, 1887 and, as we mentioned above, a great deal of Indian land was soon lost. Even in those times there were men who opposed the Act on the ground that allotments might be forced upon many Indians before they were ready for such a drastic change. Actually, the abortive attempt at "individualization" through the process of allotment fell far short of achieving the purpose for which it was conceived.

In 1889, Commissioner Morgan set forth several points of policy to the effect that (1) The Reservation system belongs to the past, (2) Indians must be absorbed into our national life, not as Indians, but as American citizens, (3) The Indian must be "individualized" and treated as an individual by the Government, (4) The Indian must "conform to the White man's ways, peaceably if they will, forceably if they must," (5) The Indian must be prepared for the new order through a system of compulsory education, and (6) The traditional society of Indian groups must be broken up.

In 1905 Commissioner Leupp pointed up the need for education as a means of severing the individual Indian from his Tribe, and from the Government, and setting him upon his own feet. Manual training was the basis of Commissioner Leupp's policy, with enough of the "three R's" to get by.

Allotments to individual Indians were made in such a manner that the allottee was prevented from alienating the land during a 25-year trust period, at the end of which time he was to receive a patent in fee. However, an Act of 1906 empowered the Secretary of the Interior to issue a patent in fee before the end of the trust period if the Indian applicant was shown to be competent. Each application for a patent had to be considered on its own merits and on the basis of a report from the Agency Superintendent concerned. However, during the first three years following passage of the law, more than half of the recipients of patents sold their land and spent the proceeds, leaving themselves destitute. To correct the situation and safeguard the Indian land base, a policy was introduced by Commissioner Valentine in 1911 whereby more rigid proof of "competency" was required. To provide the necessary proof, competency commissions were established and Superintendents were asked to submit lists of all Indians of one-half or less Indian blood who were able bodied and mentally competent. It had been proposed to immediately grant patents in fee to all such individuals, and to persons of more than one-half Indian blood provided they were adjudged competent. This policy was hailed as a new era in Indian administration. "It means that the competent Indian will no longer be treated as half ward and half citizen. It means reduced appropriations by the Government and more self respect and independence for the Indian. It means the ultimate absorption of the Indian race into the body politic of the nation. It means, in short, the beginning of the end of the Indian problem." In those terms Cato Sells, Commissioner of Indian Affairs in 1917, eulogized the new policy.

Following the first world war there was a reversal in the policy of issuing patents in fee to anyone of one-half or less Indian blood without further proof of competency, and a more rigid system was introduced.

Commissioner Burke, in his report dated 1922, stressed the need for education. He observed that "probably States should ultimately assume complete responsibility for the Indians within their borders, but pending that time there is much to be done by the Federal Service." Under Commissioner Burke an industrial survey of all Reservations was inaugurated. This survey was the forerunner of a more comprehensive study to be undertaken a few years later for the purpose of developing for each Reservation a definite program, adapted to meet the specific requirements of the group, and designed to make each of the Tribes self supporting. It was a great departure from the previous system of extending a single general policy over all Indian Tribes regardless of whether or not it fit their needs and circumstances.

During the period 1926-28 the Institute for Government Research carried out a survey of social and economic conditions of the Indians, commonly known as "The Meriam Report," after Lewis Meriam, the technical director of the survey staff. The investigators described what they found on the many Reservations, analyzed prevailing policy in terms of their findings, and made positive recommendations which were basic to the new Indian policy that was to follow. Among other things, they stressed the need for a realistic educational program adapted to the problems of Reservation life, the need for sustained and coordinated economic planning and development, the need for more carefully chosen, better paid personnel, the strengthening of community life, and clarification of the law and order function on Indian Reservations.

Prevailing policy at the time of the Meriam Survey, in connection with Education, was predicated on the premise that the advancement of Indian groups could be best accelerated by removing the Indian child from his home environment, breaking his ties with his family, and educating him in a boarding school where only English would be spoken, and where the child might receive instruction in the three R's and in manual training. The Meriam Committee found that the school day in most such boarding schools was theoretically devoted half to academic studies and half to manual training. However, in many instances, the "manual training" was found to be actually composed of institutional labor. By utilizing small children to do the more less heavy work of gardening, kitchen work, janitorial labor, etc., and by paying extremely low salaries to the school staff, it was possible to operate such institutions on a very low budget.(5) They described teaching methods as antiquated, mechanistic and of a type which had been generally discarded years before in public school systems. It was their conviction that, although the boarding schools might impart some modicum of knowledge in terms of the three R's, they failed to educate in the broader sense of preparing the Indian child for his place in the society in which he would be expected to live. Further, the Meriam Committee expressed the opinion that the boarding schools as they found them denied the established role of the family in the developmnt of personality, and ignored the necessity on the part of the child for parental guidance and affection. They found the general policy and objectives of Indian Education to be those of attempted "de-indianization" through severance from family and reservation environment. The survey then recommended that children be educated in day schools located within the communities in which they lived in order that they might benefit from a more normal home life, and in order that the schools could thus reach beyond the child to influence the life and thinking of the total community.

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[5] The Act of April 30, 1908 (35 Stats., 72) limited the per capita cost of boarding schools to $167 per year and this limitation was not relaxed until 1918. In 1926 the per capita cost was $225 per year, and in 1932 this allowance was raised to $345 for schools of 200 or less enrollment and $300 if the enrollment exceeded 500 and later $50.00 additional was allowed for all pupils in grades above the sixth. At present, in 1955, the allowance for Community Boarding Schools on the Navajo Reservation averages $705, while that for the larger Boarding Schools averages $835. This increase in per capita allowance eliminates the parsimony and the need which characterized the Boarding Schools of less than a half century ago, to depend on the children for a large part of the necessary institutional labor; and it vastly improves diet and other opportunities for modern Boarding School children. In fact, one of the explicit justifications for raising the allowance in 1932 was stated as "the employment of labor to relieve children of excessive institutional drudgery." (From "Indian Administration Since July 1, 1929," by Commissioner of Indian Affairs C. S. Rhoads and Ass't Commissioner J. Henry Scattergood.)

The Meriam Report, published in 1928, provides some insight into the Boarding Schools of less than 30 years ago. On page 327 the survey committee states that "The average allowance for food per capita is approximately eleven cents a day, exclusive of the value of food secured from the school farm. * * * Malnutrition was evident. They (the pupils) were indolent and when they had the chance to play, they merely sat around on the ground, showing no exuberance of healthy youth."

Further, and with reference to institutional labor, the Meriam Committee stated on page 375 of their report "If the labor of the Boarding Schools is to be done by the pupils, it is essential that the pupils be old enough and strong enough to do institutional work * * * The institutional work has to be done, in part at least, by very small children * * * children, moreover, who according to competent medical opinion, are malnourished. * * * In nearly every Boarding School one will find children ten, eleven and twelve spending four hours a day in more or less heavy industrial work * * dairying, kitchen work, laundry, shop. The work is bad for children of this age, especially children not physically well nourished; most of it is in no sense educational, since the operations are large scale and bear little relation to either home or industrial life outside * * * At present the half day plan is felt to be necessary not because it can be defended on health or educational grounds, but because the small amount of money allowed for food and clothes makes it necessary to use child labor.

Accordingly, in 1932 Commissioner Rhoads reflected the new trend in thinking when he observed that "the most significant feature of the year in Indian education was a determined effort to make the change from boarding school attendance to local day or public school attendance for Indian children." A year later Commissioner John Collier indicated that, in connection with education, his policy would be one of aiming at a "redistribution of educational opportunity for Indians, out of the concentrated boarding school reaching the few and into the day school reaching the many. The boarding schools which remain must be specialized along lines of occupational needs of children of the older groups, or along those of the need of some Indian children for institutional care. The day schools must be worked out on lines of community service, reaching the adult as well as the child, and influencing the health, the recreation, and the economic welfare of their local area."

The Meriam Survey had described the tragic results of the allotment system whereby Tribal groups lost so much of their land base, and the investigators found a great deal of sentiment expressed by the Indians themselves in favor of continued wardship on the part of the Federal Government. In connection with Indian lands, Commissioner Collier said that "the allotment system has enormously cut down the Indian land holdings and has rendered many areas, still owned by Indians, practically unavailable for Indian use. The system must be revised both as a matter of law and practical effect. Allotted lands must be consolidated into Tribal or corporate ownership with individual tenure, and new lands must be acquired for the 90,000 Indians who are landless at the present time. A modern system of financial credit must be instituted to enable the Indians to use their own natural resources. And training in the modern techniques of land use must be supplied Indians. The wastage of Indian lands through erosion must be checked." Commissioner Collier's social and economic policies were, to a large degree, formally incorporated into the Indian Reorganization Act which became law on June 18, 1934.

From 1922 on the emphasis on education as a basis for solution of Indian social and economic problems grew, and the policy of exclusive control of Indian affairs by the Federal Government declined. In his 1928 report, Commissioner Burke stated that "It is hoped that closer cooperation may be established between states having Indian populations and the Federal Government in dealing with questions of education, health and law enforcement."

Five years later, with reference to reorganization of the Indian Service, Commissioner Collier, in his 1933 report, expressed the view that "a decentralizing of administrative routine must be progressively attempted. The special functions of Indian Service must be integrated with one another and with Indian life, in terms of local areas and of local groups of Indians. An enlarged responsibility must be vested in the Superintendents of reservations and beyond them, or concurrently, in the Indians themselves. This reorganization is in part dependent on the revision of the land allotment system; and in part it is dependent on the steady development of cooperative relations between the Indian Service as a Federal Agency, on the one hand, and the states, counties, school districts, and other local units of government on the other hand."

In 1940 Mr. Joseph C. McCaskell, an Assistant Commissioner summed up the trend in Indian administration in a paper entitled "The Cessation of Monopolistic Control of Indians by the Indian Office" with the statement that ". . . we see the Indian Office divesting its authority into three directions; first among other Agencies of the Federal Government which have specialized services to render; second among the local state and county governments, which are much more closely associated with the problems in some areas than Washington can be; and finally among the tribal governments which have organized governing bodies, and which expect eventually to take over and manage all of the affairs of Indians. Perhaps thus, but not at once, it may be found possible to cease special treatment, special protective and beneficial legislation for the Indians, and they shall become self-supporting, self managing, and self-directing communities within our national citizenry."

The new stress was against uniformity of policy and planning and in the direction of a maximum of local adaptation, both of method and goal. It was the beginning of an approach to Indian policy and planning based on the premise that each Tribe presents special problems which cannot be successfully attacked and solved through a general plan applied universally to all Indian groups.

Following World War II pressure for the decentralization of Indian administration and the spreading of functions formerly held by the Indian Office grew to include many State and Federal agencies not previously concerned, including State Departments of Public Welfare, State Departments of Public Instruction, the U. S. Department of Agriculture, the State courts, etc. It was a stormy transition period leading to the development of a policy aimed at the elimination of the Bureau of Indian Affairs.

In an address before the Western Governors' Conference at Phoenix, Arizona, on December 9, 1952, Commissioner Dillon S. Myer emphasized the fact that by Act of Congress in 1924, and by prior actions in previous years, all Indians in the United States were declared to be citizens and that, in accordance with the 14th Amendment to the Federal Constitution, they were therefore citizens, not only of the United States, but also of the states in which they reside.(6) Commissioner Myer pointed to the fact that the emphasis in Bureau policy and planning was on health, education and welfare services, with these three activities accounting for 60% of all Bureau employees, and on resources management which accounted for 16% of all employees.

Through the Johnson-O'Malley Act of 1934, which authorized the transfer of Federally appropriated funds to State and local agencies for services rendered, Bureau contracts with State Department of Public Instruction and with school districts were made. In 1952 there were 52,000 Indian youngsters in public schools, and 31,000

[6] The act in reference was approved on June 2, 1924 (43 Stats., 253) and provides: "That all noncitizen Indians born within the territorial limits of the United States be, and they are hereby, declared to be citizens of the United States: PROVIDED, that the granting of such citizenship shall not in any manner impair or otherwise affect the right of any Indian to tribal or other property."

It is noteworthy that, prior to the passage of the Act in reference above, two thirds of the Indians in the United States were already citizens, pursuant to Acts previously passed by the Congress, including the General Allotment Act of February 8, 1887 (24 Stats., 388), as amended by the Burke Act of May 8, 1906 (34 Stats., 182); by the Act of August 9, 1888; the Act of November 6, 1919 (41 Stats., 350) affecting honorably discharged Indian servicemen of World War I; the Act of March 3, 1901, (31 Stats., 1447) conferring citizenship on all Indians of the Five Civilized Tribes of Oklahoma; and the Act of March 3, 1921 (41 Stats., 1250) with relation to the Osage Indians. In a decision involving the U. S. Vs. Nice (241 U. S., 598), the Supreme Court of the United States held that "Citizenship is not incompatible with tribal existence or continued guardianship, and so may be conferred without completely emancipating the Indians or placing them beyond the reach of congressional regulations adopted for their protection. (Op. Cit. (3))

of these were in schools receiving some supplemental assistance from federal funds. At the same time plans were going ahead rapidly for the transfer of additional Indian Service schools to local state school districts for operation. Commissioner Myer pointed to reduction of Indian Service hospitals in a number of areas through use of community and private hospital services, reduction of the Bureau's welfare services through the Social Security Act and the State Welfare Departments, and a start was made toward the transfer of agricultural extension, soil and moisture conservation, credit programs and road maintenance from the Bureau to other federal or to state agencies.

Congress urged, and the Bureau of Indian Affairs was looking toward, its eventual elimination through effective planning and programming. "We believe," Mr. Myer stated, "that the services now rendered by the Bureau of Indian Affairs can be transferred, step by step, either to the Indians themselves if the service involves handling their own economic affairs, or to other governmental agencies if it is the type of service normally rendered by government to citizens generally. This programming must be carried on in close cooperation with the Indians, both as individuals and as groups, as well as with responsible representatives of other governmental agencies — mainly state and local."

Commissioner Myer emphasized the policy of transfer to other agencies and organizations of services provided by the Bureau wherever and whenever such other agencies were equipped to provide those services as cheaply and efficiently as the Bureau. However, he stressed the fact that such transfer is not a simple mechanical process, and stated that "The kind of programming that is essential for further progress in this field is not a simple process and should not be taken lightly. It involves a thoroughgoing analysis of the problems both as they relate to functions and as they relate to individual bands, tribes and groups of Indians inhabiting specific geographic areas. Only after a thoroughgoing inventory and analysis of all problems are we ready to discuss how these problems might be solved and how certain responsibilities may be transferred from the Bureau of Indian Affairs to the Indians or to other governmental agencies."

During Commissioner Myer's administration, agreements were reached with more than 43 bands and groups of Indians in western Oregon and with 115 identifiable bands and groups in California looking toward termination of Federal responsibilities and services as provided through the Bureau. Also, an overall inventory of problems as they relate to over 200 different Indian bands, tribes or groups was completed as a guide to withdrawal programming. These problems included the heirship status of some 18,000,000 acres of allotted lands and those of managing tribal lands of which there are some 38,000,000 acres, much of it sub-marginal in quality. Poverty of many Indian groups and lack of health, educational and other training opportunities were also taken into account in withdrawal planning.

"It is a mistake to think of all Indians as an agricultural people," Commissioner Myers said. "Some are interested in agricultural pursuits while others would like to follow other vocations. Unfortunately we have not provided adequate opportunity for them to prepare for other vocations. ***Because of lack of education, lack of communications, language difficulties, and limited association with non-Indians, many Indians are afraid of the outside world."

Commissioner Myer advocated the initiation of a large scale training program in cooperation with state and private Vocational schools to prepare Indian workers to take advantage of employment opportunities through relocation, and thus raise the living standards of surplus Indian population. As an alternative to such a program, he saw the necessity for indefinite subsidy by the Federal or state governments in social and welfare services on the crowded reservations.

For those who chose to remain on the Reservations Commissioner Myer saw the need for their social, economic and political development to raise reservation standards and to prepare them for leadership and intelligent cooperation with the Bureau in the development and execution of plans for the ownership, organization and management of their individual and group resources.

He advocated the step by step transfer to county and state agencies of those community services and governmental functions currently carried on by the Bureau, and stressed the point that "you cannot have trusteeship without paternalism *** We are faced with this dilemma. On the one hand, we are trying to encourage Indian individuals and groups to take over responsibility in the management of their own affairs; and on the other we are saddled with the tremendous responsibility of protecting Indian properties — a responsibility which has been vested in the Government not only by law, but as a result of many treaty commitments made down through the years. *** If the job of eliminating the need for the Bureau of Indian Affairs is to be done with honor, and in a manner that will inspire pride, we must concentrate on the difficult job of factual analysis and constructive programming. As we approach the task, let us bear in mind that treaties must not be broken and agreements must not be set aside, and that many obligations which have been assumed and which are not a part of treaties should be discharged before the final closing of the doors. I am thinking especially of the completion of irrigation projects in order to safeguard Indian water rights which now exist, as well as to develop good land resources to the point of greatest productivity. I am also thinking of completion of needed Indian road projects before they are turned over to the county and state Governments; and working out the transfer of responsibiliy for health, educational and other social services in a manner that will assure the continuation of these services to Indians on a basis of full equality with other American citizens."(7)

In August, 1953, the 83rd Congress passed House Concurrent Resolution 108, establishing formally a policy of gradual elimination of Federal trusteeship and of the special services provided by the Bureau of Indian Affairs to Indians. The Resolution in reference provided that "It is the policy of Congress, as rapidly as possible, to make the Indians within the territorial limits of the United States subject to the same laws and entitled to the same privileges and responsibilities as are applicable to other citizens of the United States, to end their status as wards of the United States, and to grant them all the rights and prerogatives pertaining to American citizenship."

Withdrawal programming and the newly formulated policy of the Federal Government sent a wave of apprehension through many Indian Tribes, especially those

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[7] From address by Commissioner of Indian Affairs Dillon S. Meyer, before the Western Governors' Conference—Phoenix, Arizona, December 9, 1952.

who were most immediately concerned. Many groups, not yet prepared for life in a competitive society felt that their security was threatened and made their sentiments heard. They feared that actions jeopardizing their future, if not their very survival, might be prematurely taken, by Congress, and in some tribes there developed cleavages with factions that favored and factions that opposed termination of Federal wardship.

Shortly after his appointment as head of the Bureau of Indian Affairs, Commissioner Glenn L. Emmons personally visited Indians throughout the United States and Alaska. He reassured Indian groups everywhere that programming by the Bureau would be determined on the basis of individual Tribal and regional need, and that every opportunity would be afforded to them for consultation and close participation in all aspects of program planning affecting them. In fact, those aspects of policy were formally set forth in a letter of September 2, 1953, from President Dwight D. Eisenhower to the Commissioner, and the latter read the presidential letter to groups he visited in order to fully reassure them.

"***One thing that has impressed me above all others is the tremendous complexity and diversity of (Indian Affairs)," Commissioner Emmons said.([8]) "I have realized for many years, of course, that there are a large number of Indian groups throughout the country who are quite different from the tribes which I have known more intimately in the area around Gallup. But I find that these differences are even more substantial than I had suspected. I am now more convinced than ever that you cannot apply the same yardstick to the more than 200 Tribal groups throughout the United States. Each Tribe has its own customs and traditions, its own set of problems, its own type of organization, its own past history of relations with the Federal Government, its own ideas about its future development. All of these things and many others will have to be carefully considered before we decide on a course of action with respect to any particular tribal group. *** Some of the broad outlines of Indian policy, of course, have been pretty well established. What we are trying to achieve essentially, as I see it, is a condition of parity or equality for the Indian people as compared with the rest of the population. This does not mean that we are expecting Indians to give up their own culture and be just like everyone else. But it does mean that we want to give the Indians the same opportunities for advancement — the same freedom and responsibility in the management of their properties — as other American citizens. *** I know that there are some Tribes which are ready and anxious to take over full responsibility for their own affairs at the earliest possible time, and that others will have to move along toward that objective much more slowly and gradually. *** I recognize that in many areas there is a real need for a continuation of the trusteeship and will be for several years. While I cannot, of course, guarantee that your government will always accept your recommendations on the termination of trusteeship, I can and do pledge that each tribal group will be fully consulted by the Bureau of Indian Affairs before we take any final action in recommending a termination program to Congress. *** In the meantime, however, we shall be continuing in our efforts to transfer our service responsibilities in the field of health, education, welfare and similar fields wherever possible to the agencies which normally provide these services for other citizens. I am greatly encouraged by the progress which has been made in placing Indian children in the public schools of the country, and I hope we can speed up and broaden our efforts in this direction. We should also be able to make similar progress eventually in health, welfare, law enforcement, road maintenance, agricultural extension, and home demonstration work, and along other lines. Every transfer of this kind which we make to a local agency is another step toward the day when the Indian people will be able to move forward without further restrictions or special services from the Federal Government."

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[8] Address delivered to Indian Tribal groups visited by Commissioner G. L. Emmons, Sept.-Oct., 1953.

Under Commissioner Emmons the Bureau has indeed moved forward in the solution of many basic Indian problems. Heavy stress has been laid on education as an essential prerequisite to successful preparation of Indian Tribes for management of their own affairs and for the attainment of better economic and social standards. The progress made in the past two years toward the provision of universal educational opportunities for Navajo children is a primary example of the accelerated progress being made toward that objective. As a direct answer to economic problems confronting Indian groups, Commissioner Emmons is broadening the Relocation program and has begun the work of developing industrial employment opportunities to utilize Indian manpower by promoting the cooperation of Indian Tribes, and neighboring towns in attracting industrial developments to such towns as well as to the Reservations themselves. Progress has been made in the transfer of agricultural extension services and law and order functions in some areas from the Bureau to the States and counties.

Commissioner Emmons looks forward to an increasing assumption of initiative and responsibility by the Indians for the management of their own personal and tribal affairs; a steady narrowing of the scope of Federal responsibility and activity in the Indian field; and a broadening and deepening of the part played by the States and their political subdivisions. However, although the Commissioner stresses as a primary objective the well-being and economic advancement of the Indian people as a prerequisite to full independence, he at the same time emphasizes the necessity for attaining those objectives in a humanitarian way and with broadly sympathetic understanding. "I intend to make this (humanitarianism and understanding) the keynote in my administration of Indian Affairs and to stress it not only in the Washington office of the Bureau but in all of our field offices and agencies," he stated.(9)

In retrospect, the history of the Office of Indian Affairs is a reflection of the development of our nation from colonial times to the present. Originally a special diplomatic service designed for the maintenance of peaceful relations between the struggling colonies and the powerful Indian Tribes surrounding them, it later became an intermediary between the Federal Government and the Tribes in the acquisition of new lands and in the problems attendant upon voluntary or forced emigration of the Indians westward. Both the demand for national expansion and the humanitarian desire to save the Indian from annihilation are reflected in the policy and practices of the past.

As the settlement of western lands shrank Tribal resources and destroyed traditional bases of livelihood, the Bureau of Indian Affairs became the dispenser of charity on the reservations to prevent starvation and to exercise the duties of trusteeship assumed by the Federal Government toward its Indian wards. From a beginning in which the Bureau treated Indian Tribes as sovereign powers it rapidly became a potent factor in their internal affairs. In fact, the Bureau all but supplanted traditional Tribal organization with the personal government of politically appointed agents during the

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[9] Address by Commissioner of Indian Affairs Glenn L. Emmons—Phoenix Press Club Forum—October 28, 1953.

autocratic phase of its development. During the period of paternalism Bureau policy and planning ignored the cultural and other distinctions that applied to the many Indian groups and presumed to solve Indian problems by the imposition of a uniform program in relation to all Tribes.

Generally speaking, the policies, plans, procedures and attitudes adapted to the circumstances and motivations of one period were carried over to succeeding periods, and most of the vast array of more than 8,922(10) laws, regulations, legal opinions and the like developed to regulate or facilitate Indian administration, especially during the autocratic phase of Bureau policy, remain in force to the present day. Even during the height of the paternalistic era there was pressure for the elimination of charity as the basis for survival of reservation Indians, and the institution of a program of education and resource development aimed at making the Indian people self-supporting. Pressures for the overthrow of the policy of paternalism culminated in the passage of the Indian Reorganization Act of 1934, under the terms of which Indian tribes gained the power of approval or veto over the disposition of all tribal assets; they were authorized to take over control of their own resources as rapidly as they could develop the leadership necessary to the direction of their own affairs; they were given the right to employ legal counsel, the right to negotiate with federal, state and local governments, and the right to be advised of all appropriation estimates affecting them before such estimates were submitted to the Bureau of the Budget and Congress. They were also assisted and encouraged in the development of representative tribal governments under tribal constitutions as an aspect of their reorganization.

In succeeding years the realization grew that the land base available to many Indian groups is insufficient in extent or quality to support the total population, and modern policy stresses diversification of their economy with a view to providing for the attainment of decent living standards independently of reservaton resources, at least for surplus population. Today, as education, training, relocation and reservation resource development combine to improve the opportunities and living standards of Indians, and as services become available to them from sources outside the Indian Bureau, the Federal Government is looking toward the day when the Bureau of Indian Affairs will no longer be required either to act as an intermediary with the Tribes or to provide the community and other services formerly lacking from regular State and county sources. The emphasis is not on the Indian as an object of national charity, but as a citizen of the United States. We are not only striving to bring the Indian to a status of parity and equality with his fellow citizens, as Commissioner Emmons has expressed it, but through the Indian Claims Commission we are trying to right some of the historical wrongs suffered at the hands of our ancestors.

President Jefferson, in one of his messages to Congress probably came close to forecasting the future of our Indian minorities when he said, "In truth, the ultimate point of rest and happiness for them (the Indians) is to let our settlements and theirs meet and blend together, to intermix and become one people. Incorporating themselves with us as citizens of the United States is what the natural process of things will bring on; it is better to promote than retard it. It is better for them to be identified with us and preserved in the occupation of their lands than to be exposed to the dangers of being a separate people."

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[10] With reference to that body of laws, regulations, treaties, legal opinions, agreements, charters, constitutions and allied legal documents accumulated prior to July 1, 1940.

CENSUS

Despite improvements in census techniques in recent years, figures relating to Navajo population must be partially estimated. Several tables of census data are provided herewith, based on records maintained by the Navajo Agency Census Office, on school census and on data collected by the Bureau of the Census with regard to persons found to be resident on Indian reservations on April 1, 1950. Detailed information on the 1950 statistics is available in a pamphlet published by the Bureau of Indian Affairs in June 1955, entitled "Resident Population on Indian Reservations," and in a companion document, "Indian Population of Continental United States: 1950."

The latter document points out certain outstanding differences between the Indian and white population, including the following:

1. The median age of reservation Indians (18.8 years) is nearly 10 years lower than that of rural whites in the United States (28.2 years).

2. The percentage of total Indian population in the United States under 20 years of age is 50.8 (53.5% with respect to Reservation Indians in the Western States) whereas over one half of the general U. S. population is over 30 years of age.

Navajo population is estimated to be increasing annually at a rate of about 2.25 percent.(1) This rate of increase is used to estimate Navajo population between the census years. Thus, on the premise that the population on the Navajo Reservation in 1954 was about 78,000 the estimated population in 1955 is nearly 80,000.(2) In 1950, an estimated 7,000 Navajos were living outside the Reservation at census time, and in 1955 an indeterminate number of Navajos was permanently settled outside the Reservation.

It is of interest to note that, of a total Navajo population of 19,975 reported on the basis of the 1930 census for the Fort Defiance and Tuba City Agencies, 55% were shown in the age group 1 year or less to 19, inclusive. The total population of the two Agencies in reference was 51.3% male and 48.7% female.

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(1) The U. S. Public Health Service uses 2.3% as the rate of increase.

(2) The U. S. Public Health Service uses a population estimate of almost 76,000 for 1954, and 77,300 for 1955. The latter figure is used as the current base for computing vital statistics rates.

CENSUS FOR 1950
NAVAJO POPULATION BASED ON CENSUS COUNT AND ESTIMATES

	1950	1955 Estimate		1950	1955 Estimate
New Mexico: (Total)	(22,830)	(29,842)	Arizona: (Total)	(37,861)	(47,928)
McKinley	13,406		Apache	20,293	
San Juan	8,758		Navajo	8,568	
Sandoval	598		Coconino	9,000	
Rio Arriba	43		Utah: (Total)	(1,476)	(2,020)
			San Juan	1,476	
Valencia	25		Estimated off-Reservation	7,000	
Totals				69,167	79,790

NAVAJO-HOPI HEALTH SERVICE BENEFICIARIES(1)

	1950	1955
Navajo: Total	**62,170**	**77,300**
Arizona	37,110	46,150
New Mexico	23,440	29,140
Utah	1,620	2,010
Hopi	**4,830**	**4,400**
Arizona	4,830	4,400

[1] Public Health Service estimate of health service beneficiary population.

INDIAN POPULATION OF ARIZONA

BY RESERVATION

(From Census of 1950) (1)

RESERVATION	Resident Population	Area Sq. Miles	Population Per Square Mile
Colorado River Agency:			
Colorado River Res.	1,336	389	3.4
Havasupai	368	54	6.8
Hualapai	300	1,549	0.2
Yavapai	115	. . . .	. .
Other	51	38	1.3
Fort Apache	3,003	2,613	1.2
Hopi	4,011	986	4.1
Navajo	32,838	16,895	1.9
Pima Agency:			
Fort McDowell	192	39	4.9
Gila River	4,423	581	7.6
Maricopa	141	34	4.1
Salt River	1,162	73	15.9
San Carlos	3,136	2,569	1.2
Papago	4,468	4,445	1.0
Kaibab	63	188	0.3
Rest of State	11,293		
Totals	66,900	30,453	

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[1] Adapted from Table 4, "Indian Population of Continental United States: 1950," Publ. in mimeo. by BIA.

INDIAN POPULATION OF NEW MEXICO
BY RESERVATION
(From Census of 1950) (1)

RESERVATION	Resident Population	Area Sq. Miles	Population Per Square Mile
Ute Mountain	18	168	0.1
Jicarilla	929	1,165	0.8
Mescalero	854	741	1.2
Navajo	20,714	5,550	3.7
Acoma	1,385	387	3.6
Alamo (Navajo)	311	32	9.7
Canoncito (Navajo)	360	91	4.0
Cochiti	289	38	7.6
Isleta	1,062	321	3.3
Jemez	788	70	11.3
Laguna	1,638	671	2.4
Nambe	84	32	2.6
Picuris	98	27	3.6
Pojoaque	2	21	0.1
Sandia	153	37	4.1
San Felipe	721	93	7.8
San Ildefonso	152	40	3.8
San Juan	324	25	13.0
Santa Ana	284	35	8.1
Santa Clara	501	71	7.1
Santo Domingo	978	103	9.5
Taos	842	74	11.4
Tesuque	145	27	5.4
Zia	254	97	2.6
Zuni	2,564	628	4.1
Rest of State	8,050		
Totals	43,500	10,544	

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[1] From "Indian Population of Continental United States: 1950," Table I, Publ. in mimeo. by BIA.

RESIDENT INDIAN POPULATION BY AGE, SEX AND ADMINISTRATIVE AREA — WINDOW ROCK AREA (NAVAJO AND HOPI) 1950 (1)

MALE			FEMALE		
Age Group	Number	Percent	Age Group	Number	Percent
0-4	5,115	8.7	0-4	4,966	8.4
5-9	4,720	8.0	5-19	4,788	8.1
10-14	4,110	7.0	10-14	3,825	6.5
15-19	3,160	5.4	15-19	3,407	5.8
20-24	2,443	4.2	20-24	2,741	4.7
25-34	3,153	5.4	25-34	3,478	5.9
35-44	2,307	3.9	35-44	2,539	4.3
45-54	1,799	3.1	45 54	1,690	2.9
55-64	1,179	2.0	55-64	956	1.6
65-69	462	0.8	65-69	424	0.7
70-74	308	0.5	70-74	290	0.5
75-Over	535	0.9	75-Over	462	0.8
Total	29,291	49.8	Total	29,566	50.2
Median Age	16.1		Median Age	16.8	

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[1] Adapted from Table 4, "Indian Population of Continental United States: 1950," Publ. in mimeo. by BIA.

SUMMARY NAVAJO SCHOOL CENSUS BY SCHOOL AREA

1955

School Area	1 yr. & Under	2 Yrs.	3 Yrs.	4 Yrs.	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.	15 Yrs.	16 Yrs.	17 Yrs.	18 Yrs.	Total
Chinle	273	349	396	399	412	433	405	402	374	351	335	366	346	321	292	316	312	292	6,374
Crownpoint	429	252	250	223	218	221	222	211	204	172	169	177	199	161	159	142	164	124	3,697
Ft. Defiance ...	226	215	196	203	184	226	250	246	227	233	173	192	211	201	179	173	146	130	3,611
Klagetoh	677	463	400	444	343	369	364	376	341	312	300	318	293	281	297	271	244	224	6,317
Toadlena	159	159	142	144	144	132	145	123	109	124	127	121	109	111	120	100	111	100	2,280
Tohatchi	94	81	113	90	123	95	100	122	107	84	89	100	87	98	86	85	101	68	1,723
Tuba City	867	541	417	471	408	475	397	399	347	288	308	310	277	316	255	304	252	240	6,872
Shiprock	904	446	431	348	376	347	364	345	314	296	296	332	270	262	219	275	221	190	6,236
Wingate	262	265	240	222	251	294	236	266	225	254	215	201	194	179	162	146	170	126	3,908
Total	3,891	2,771	2,585	2,544	2,459	2,592	2,483	2,490	2,248	2,114	2,012	2,117	1,986	1,930	1,769	1,812	1,721	1,494	41,018

Estimated Total Navajo Population — 1955	80,000 (on Reservation)
Percent Total Population — Aged 1-5	18%
Percent Total Population — Aged 6-18	34%
Percent Total Population — Aged 1-18, Incl.	52%
Percent Total Population — Over Age 18	48%

SUMMARY NAVAJO RESERVATION SCHOOL CENSUS

By Age Groups for School Year 1955-56, with Annual Projections Through School Year 1959-60 ([1])

SCHOOL YEAR	Number Aged 6-12 yrs.	13-18 yrs. Number Aged	Total Number Aged 6-18 yrs.	Annual Increase Aged 6-18 yds.
1955-56	16,056	10,712	26,768	. . .
1956-57	16,398	11,335	27,733	965
1957-58	16,930	11,626	28,556	823
1958-59	17,401	11,928	29,329	773
1959-60	17,924	12,407	30,331	1,002

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[1] Projections were made on the basis of the 1955-56 School Census. However, the above figures do not include children who could not be actually located at Census time, or Navajos under the jurisdiction of the United Pueblos Agency (Ramah, Canoncito, Alamo). As of June, 1955 there were 984 known children in these two excluded categories, bringing the total number of children aged 6-18 to 27,752 for the current school year.

HEALTH

Findings of a survey of health conditions on the Navajo reservation made during 1947 at the request of the American Medical Association indicated that "the health problem of the Navajo may be stated as the prevention and controlling of infectious and communicable diseases in a widely scattered, poorly nourished, ill-housed people. Metabolic and degenerative diseases that are relatively uncontrollable are very uncommon."

The information developed in this survey was included in a report "The Navajo Health Problem," published by the Window Rock Area Office in October 1951. Much of the statistical data beginning in 1944 are incorporated in the appendix tables to provide some measure of the trend of morbidity and mortality.

It is significant that the three leading causes of death in 1900 among the United States general population were tuberculosis, influenza and pneumonia, and gastritis-enteritis. Total deaths in these three disease groupings accounted for 31.4 percent of all deaths in 1900, but only 5.4 percent by 1949. Tuberculosis had dropped to seventh place, influenza and pneumonia were fifth, and diarrhea-enteritis had ceased to be a major cause of death. (Heart diseases and malignant neoplasms were the first two leading causes of death.) By contrast, the three leading causes of death among Navajo Indians in 1949 were the same diseases which prevailed in the general population in 1900 — tuberculosis, pneumonia and influenza, diarrhea and enteritis — and accounted for 48.5 percent of the total Navajo deaths.

Although there has been a steady decline in tuberculosis mortality rates on the Navajo reservation, it was the fourth leading cause of death in 1953. The first was gastro-enteric diseases, the second was ill-defined conditions, and the third was pneumonia. A similar trend is shown in the provisional figures for 1954 with the tuberculosis mortality rate continuing to decline.

On the Navajo reservaton, a significant proportion of all illnesses is caused by the general use of unsafe drinking water, unsafe practices in waste disposal, and the prevalence of flies and other insect vectors of disease. The development of the sanitation and health education program and promotion of sanitary practices are aimed to reduce mortality and morbidity from the infectious diseases which are attributable to unsanitary conditions.

Mortality rates and figures which are shown for the calendar year 1954 are provisional. The provisional data for the United States general population were available in the monthly Vital Statistics Report of the National Office of Vital Statistics, May 20, 1955:

> "Annual Summary for 1954, Part 2. Estimated Number of Deaths
> and Death Rates for Selected Causes: United States 1954.'

Navajo Agency vital statistics data and rates for 1954 are also provisional, and were derived from the health statistics available in Agency records, to be reviewed after the official publication of 1954 data by the National Office of Vital Statistics are available.

HOSPITALS CONSTRUCTED SINCE 1889

Navajo

Location	Date Built	No. & Type of Beds General	TBC	Orthoped.	Present Status	Remarks
Fort Wingate	1889	35	..	..	Closed 1946	
Leupp	1929	29	..	...	Closed 1943	
Shiprock*	1908	41	..	..	Operating	Replaced in 1915; new 75 bed Hosp. authorized 1950
Tuba City	1911	6	..	..	Used as quarters	Replaced 1928 and 1954
Tuba City	1928	24	..	..	Operating	Increased to 48 bed in 1930
Tuba City	1954	75	..	..	Operating	New, 75 bed
Fort Defiance	1912	..	93	..	Operating	Built as a hospital; enlarged 1929—Tbc. San. since 1939
Fort Defiance	1939	115	..	..	Operating	Navajo Medical Center
Crownpoint	1914	32	..	..	......	Replaced in 1939
Crownpoint	1939	36	..	20	Operating	
Toadlena	1926	20	..	..	Closed 1944	
Kayenta	1929	50	47	..	Closed 1944	
Tohatchi	1927	16	..	..	Closed 1946	Operating as Health Center
Chinle	1932	16	..	..	Closed 1950	Operating as Health Center
Winslow	1933	38	35	..	Operating	
Keams Canyon	1913	35	..	..	Operating	Primarily Hopi, but serves Navajo also.

* Funds for planning appropriated in 1954; funds for construction appropriated in 1955.

NAVAJO MEDICAL-HEALTH STAFF

	NUMBER		
TYPE PERSONNEL	1950	1954	1955
Medical Officers	16	17	23
Dental Officers	4	6	8
Nurses (hospital)	62	60	64
Nurses (Public Health)	8	20	24
Sanitarians	2	6	9
Other	208	234	308
TOTAL	300	343	436

HOSPITAL ADMISSIONS FOR SIX MONTHS PERIOD ENDING DECEMBER 31, 1955 WINDOW ROCK SUB AREA ([1])

					NEWBORN			
FACILITY	Admissions	Discharges	Aver. Census	Aver. Stay	Adm.	Disch.	Aver. Census	Aver. Stay
Crownpoint	491	491	38,8	14.5	83	83	1.6	3.5
General	447	444	22.5	9.3	83	83	1.6	3.5
Orthopedic	44	47	16.3	63.7	..	..	..	..
Ft. Defiance	1,032	1,031	165.7	29.6	218	224	7.8	6.4
General	972	956	75.7	14.6	218	224	7.8	6.4
TBC	60	75	90.0	220.9	..	..	..	..
Shiprock	766	766	29.1	7.0	162	162	3.1	3.5
Tuba City	753	735	42.7	10.7	144	144	3.3	4.3
Winslow	400	393	23.1	10.8	93	91	2.6	5.3
Hospital Total	3,442	3,416	299.4	16.1	700	704	..	..
General	3,338	3,294	193.1	10.8	700	704	..	..
TBC	60	75	90.0	220.9	..	..	..	..
Orthopedic	44	47	16.3	63.6	..	..	..	..
Intermountain Infirmary	249	239	11.9	9.2	..	..	..	..

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[1] Prepared by Statistics and Analysis Section, USPHS, Albuquerque, New Mexico.

NAVAJO-HOPI HOSPITALS PATIENT LOADS AND ADMISSIONS (EXCL. NEWBORN) FISCAL YEARS 1954 and 1955

	Average Daily Patient Loads		
HOSPITALS	F. Y. 1954 (July 1953-June 1954)	F. Y. 1955 (July 1954-June 1955)	C. Y. 1955 (Jan. 1955-Dec. 1955)
All Hospitals — Total	337.5	318.2	320.5
Crownpoint	45.2	42.6	39.5
Shiprock	28.6	25.9	28.4
Tuba City	32.0	33.1	38.5
Winslow	37.7	28.2	24.0
Keams Canyon, Hopi	24.0	22.3	24.1
Ft. Defiance	(170.0)	(166.1)	(166.0)
General	70.0	72.1	73.1
Tuberculosis	100.0	94.0	92.9

ADMISSIONS TO HOSPITALS

HOSPITALS	F. Y. 1955 (July 1954-June 1955)	C. Y. 1955 (Jan. 1955-Dec. 1955)
Crownpoint	1,030	998
Shiprock	1,282	1,385
Tuba City	1,400	1,502
Winslow	807	896
Keams Canyon, Hopi	919	1,039
Ft. Defiance	2,088	2,032
General	1,926	1,875
Tuberculosis	162	157

NAVAJO-HOPI HOSPITALS

OUTPATIENT WORKLOADS—FISCAL YEAR AND CALENDAR YEAR 1955(¹)

HOSPITALS	Fiscal Year 1955		Calendar Year 1955	
	Number of Patients	Number of Treatments	Number of Patients	Number of Treatments
TOTAL	54,504	67,648	54,383	68,427
Crownpoint	4,690	6,006	4,836	5,523
Shiprock	12,321	14,003	11,617	14,078
Tuba City	9,831	11,297	9,715	11,323
Winslow	3,635	5,806	3,267	5,785
Keams Canyon, Hopi	5,393	6,609	5,248	6,166
Ft. Defiance	18,634	23,927	19,700	25,552
HEALTH CENTERS				
TOTAL	37,924		39,554	
Chinle	12,442	18,535	10,994	19,603
Gallup	16,853	18,382	17,350	18,440
Tohatchi	8,629	n.a.	11,210	n.a.

n.a.—Not Available.
[1] Prepared by USPHS.

COMMUNICABLE DISEASES

CASE AND CASE RATES — PER 100,000 POPULATION

DISEASES	Calendar Year — 1954		Calendar Year — 1955	
	Number	Rate	Number	Rate
Tuberculosis, respiratory	509	676.0	403	521.3
Tuberculosis, other forms	91	120.8	75	97.0
Syphilis and its sequelae	426	565.7	178	230.3
Gonococcal infections	522	693.2	334	432.1
Granuloma, inguinale, venereal	. .	. .	1	1.3
Typhoid fever	8	10.6	6	7.8
Brucelosis	. .	. .	1	1.3
Dysentery, all forms	179	237.7	107	138.4
Scarlet fever & strep sore throat	44	58.4	10	12.9
Diphtheria	1	1.3	. .	. .
Whooping Cough	3	4.0	9	11.6
Meningococcal infections	8	10.6	10	12.9
Acute poliomyelitis	1	1.3	1	1.3
Acute infectious encephalitis	. .	. .	2	2.6
Measles	1,400	1,859.2	1,304	1,686.9
Chicken pox	368	488.7	421	544.6
Mumps	550	730.4	249	322.1
Infectious hepatitis	55	73.0	31	40.1
Rabies	2	2.6	. .	. .
Trachoma	232	308.1	157	203.1
Rocky Mountain Spotted fever	. .	. .	2	2.6
Malaria	1	1.3	. .	. .
Scabies	. .	. .	2	2.6
Influenza	59	78.4	35	45.3
Pneumonia	666	884.5	681	881.0
Puerperal sepsis	4	5.3	10	12.9

1954 Estimated population—75,300 (USPHS Estimate)

1955 Estimated population—77,300 (USPHS Estimate)

BIRTH AND DEATH RATES
NAVAJO RATES COMPARED WITH U. S. GENERAL POPULATION
1944-1954(¹)

Calendar Year	BIRTH			DEATH		
	Rate 1000 Est. Population			Rate 100,000 Est. Population		
	Navajo No.	Navajo Rate	U. S. Gen. Rate	Navajo No.	Navajo	U. S. Gen. Rate
1954	2532	33.6	25.0	573	761.0	918.8
1953	2479	33.8	24.7	639	870.6	959.3
1952	2423	33.7	24.6	674	937.4	961.0
1951	2241	31.7	24.5	743	1,052.4	966.3
1950	2034	29.3	24.1	685	987.4	963.8
1949	1808	26.8	26.1	600	891.3	971.0
1948	1281	19.5	23.6	715	1,090.8	988.6
1947	1434	22.5	25.5	706	1,106.2	1,007.6
1946	1415	22.6	23.0	629	1,004.9	996.5
1945	1176	19.2	19.2	676	1,107.1	1,058.1
1944	1242	20.5	19.8	672	1,107.9	1,062.1

[1] Prepared by USPHS, Statistics and Analysis Section, Albuquerque.

MATERNAL MORTALITY RATES, NAVAJO AND U. S. GENERAL POPULATION
1944-1954(¹)

Year	Number Maternal Deaths Navajo	Rate per 1,000 Live Births Navajo	Rate per 1,000 Live Births U. S. Gen. Pop.
1954	6	2.4	0.5
1953	5	2.0	0.6
1952	5	1.9	0.7
1951	4	1.9	0.8
1950	7	3.4	0.8
1949	3	1.6	0.8
1948	8	6.2	0.9
1947	12	8.4	1.1
1946	5	3.5	1.3
1945	7	6.0	1.7
1944	3	4.8	1.9

[1] Prepared by Statistics and Analysis Section, USPHS, Albuquerque.

INFANT MORTALIY AND MORTALITY RATES FOR SELECTED CAUSES FOR NAVAJOS COMPARED WITH RATES FOR U. S. GENERAL POPULATION (1)

	Number Deaths	Rate per 1,000 Live Births		Per Cent Total Infant Deaths		Number Deaths	Rate per 1,000 Live Births		Per Cent Total Infant Deaths	
CAUSE OF DEATH	Navajo	Navajo	U. S. Gen.	Navajo	U. S. Gen.	Navajo	Navajo	U. S. Gen.	Navajo	U. S. Gen.
Diseases of early infancy	64	35.4	13.7	25.6	44.2	77	30.4	15.6	28.0	59.3
Diarrhea, enteritis and dyesentery	59	32.6	1.7	23.6	5.4	77	30.4	1.1	28.0	3.9
Pneumonia and inflenza	56	31.0	2.5	22.4	8.2	66	26.1	2.0	24.0	7.4
Tuberculosis, all forms	12	6.6	0.9	4.8	0.3	5	2.0	..	1.8	..
Syphilis, all forms	8	4.4	0.9	3.2	0.3	..		..		
Congenital malformations	6	3.3	4.1	2.4	13.2	9	3.6	3.9	3.3	14.7
Peritonitis, acute	4	2.2	..	1.6	..	..	..	..		
Meningitis, non-tbc.	4	2.2	..	1.6	..	..		0.1		0.5
Ill-defined and unknown causes	11	6.1	..	4.4	..	20	7.9	0.6	7.3	2.4
All other causes	26	14.4	8.8	10.4	28.4	21	8.3	3.3	7.6	11.8
Total Infant Deaths	250	138.3	31.1			275	108.6	26.6		
Total Deaths	600					573				
Total Births	1,808					2,532				

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[1] Prepared by Statistics and Analysis Section, USPHS, Albuquerque.

INFANT MORTALITY FOR NAVAJOS AND U. S. GENERAL POPULATION

1944-1954 ([1])

Age and Year	Number of Infant Deaths Navajo	 U.S. Gen. Pop.	Rate per 1,000 Live Births Navajo	 U.S. Gen. Pop.
Under 1 year, 1954	275	107,100	108.6	26.6
Under 1 year, 1953	314	109,100	126.7	27.9
Under 1 year, 1952	267	109,413	110.2	28.4
Under 1 year, 1951	304	106,702	135.6	28.4
Under 1 year, 1950	272	103,825	133.7	29.2
Under 1 year, 1949	250	111,200	138.3	31.3
Under 1 year, 1948	291	92,034	227.2	32.0
Under 1 year, 1947	275	98,547	191.8	32.2
Under 1 year, 1946	214	92,510	151.2	33.8
Under 1 year, 1945	257	85,295	218.5	38.3
Under 1 year, 1944	231	90,607	186.0	39.8

[1] Prepared by Statistics and Analysis Section, USPHS, Albuquerque.

COMPARATIVE BIRTH, INFANT MORTALITY AND MATERNAL MORTALITY RATES FOR NAVAJO COMPARED WITH U. S. GENERAL POPULATION ([1])

	1945 Navajo	 U. S. Gen.	1949 Navajo	 U. S. Gen	1954 Navajo	 U. S. Gen.
Birth Rate per 1,000 Population	19.2	19.2	26.8	26.1	33.6	25.0
Infant Mortality Rate per 1,000 Births	218.5	38.3	138.3	31.3	108.6	26.6
Maternal Mortality Rate per 1,000 Births	6.0	2.1	1.6	0.9	2.4	0.5

[1] Prepared by Statistics and Analysis Section, USPHS, Albuquerque.

NAVAJO DEATHS FROM AND DEATH RATES FOR SELECTED CAUSES OF DEATH — COMPARATIVE U. S. GENERAL POPULATION RATES (1)

	Navajo				U.S. General
	Cal. Yr. 1953		Cal. Yr. 1954		1954
CAUSE OF DEATH	Number	Rate	Number	Rate	Rate
TOTAL—ALL CAUSES	639	870.6	573	761.0	918.8
Tuberculosis, all forms	43	58.6	40	53.1	10.5
Tuberculosis, respiratory	(22)	30.0	(33)	43.8	9.6
Tuberculosis, other forms	(21)	28.6	(7)	9.3	0.9
Syphilis and its sequelae	4	5.4	. .		3.1
Dysentery, all forms	3	4.1	8	10.6	0.3
Whooping cough	2	2.7	. .		0.2
Meningococcal infections	2	2.7	. .		0.7
Measles	6	8.2	11	14.6	1.0
Acute poliomyelitis	1	1.4	. .		0.3
All other infections & parasitic Dis.	2	2.7	2	2.7	2.8
Malignant neoplasms	22	30.0	17	22.6	147.0
Diabetas mellitus	. .		1	1.3	15.4
Vascular lesions affecting the central nervous system	6	8.2	11	14.6	103.6
Non-meningococcal meningitis	8	10.9	5	6.6	1.2
Heart Diseases	26	35.4	21	27.9	343.4
Influenza	6	8.2	3	4.0	1.5
Pneumonia	69	94.0	93	123.5	23.7
Bronchitis	3	4.1	5	6.6	1.7
Appendicitis	3	4.1	1	1.3	1.3
Gastritis, duodenitis, enteritis & colitis	113	154.0	83	110.2	5.3
Nephritis and nephrosis	3	4.1	13	17.3	1.6
Complications of pregnancy, childbirth and the puerperium	5	6.8	6	8.0	1.3
Congenital malformations	9	12.3	13	17.3	12.9
Birth injuries, post-natal asphyxia and atelectasis	18	24.5	13	17.3	18.2
Infections of newborn	28	38.1	19	25.2	2.5
Other diseases peculiar to early infancy & immaturity unqualified	36	49.0	45	59.8	18.7
Symptoms, senility & ill-defined cond.	93	126.7	72	95.6	12.6
Motor vehicle accidents	46	62.7	24	31.9	23.1
All other accidents	35	47.7	37	49.1	33.8
Suicide & self-inflicted injury	. .		4	5.3	9.9
Homicide & operations of war	4	5.4	3	4.0	4.8
Residual, all other causes	43	58.6	23	30.5	41.3

Rates per 100,000 population, 1954 rates are provisional.
Estimated population 7/1/1953—73,400.
Estimated population 7/1/1954—75,300.

[1] Prepared by Statistics and Analysis Section, USPHS, Albuquerque.

TEN LEADING CAUSES OF DEATH AMONG NAVAJOS COMPARATIVE U. S. GENERAL POPULATION RATES

Calendar Year 1954 ([1])

CAUSES	Rates per 100,000 Pop. Navajo	U. S. Gen.	Per Cent of total deaths Navajo	U. S. Gen.
1. Pneumonia	123.5	23.7	16.2	2.6
2. Gastritis, Duodenitis, Enteritis, Colitis	110.2	5.3	14.5	0.6
3. Certain Diseases of early infancy	102.3	39.4	13.4	4.3
4. Accidents—All	81.0	56.9	10.6	6.2
5. Tuberculosis—all forms	53.0	10.5	7.0	1.1
6. Heart Diseases	27.9	343.4	3.7	37.4
7. Malignant Neoplasms	22.6	147.0	3.0	16.0
8. Nephritis and Nephrosis	17.3	12.6	2.3	1.2
9. Congenital Malformations	17.3	12.9	2.3	1.4
10. Vascular Lesions affecting the Central Nervous System	14.6	103.6	1.9	11.3

[1] Prepared by Statistics and Analysis Section, USPHS, Albuquerque.

TEN LEADING CAUSES OF DEATH FOR U. S. GENERAL POPULATION COMPARATIVE NAVAJO POPULATION RATES

Calendar Year 1954 ([1])

CAUSES	Rates per 100,000 Pop. U.S. Gen.	Navajo	Per Cent of Total Deaths U.S. Gen.	Navajo
1. Diseases of Heart	343.4	27.9	37.4	3.7
2. Malignant Neoplasms	147.0	22.6	16.0	3.0
3. Vascular Lesions affecting Central Nervous System	103.6	14.6	11.3	1.9
4. Accidents — All	56.9	81.0	6.2	10.6
5. Certain Diseases of Early Infancy	39.4	102.3	4.3	13.4
6. Pneumonia and Influenza	25.2	127.5	2.7	16.8
7. General Arteriosclerosis	19.0	. .	2.1	. .
8. Diabetes Mellitus	15.4	1.3	1.7	0.2
9. Congenital Malformations	12.9	17.3	1.4	2.3
10. Chronic and Unspecified Nephritis	11.0	17.3	1.2	2.3

[1] Prepared by Statistics and Analysis Section, USPHS, Albuquerque.

NAVAJO DEATHS AND DEATH RATES COMPARED WITH DEATHS AND DEATH RATES FOR U. S. GENERAL POPULATION FOR ALL CAUSES, BY AGE AND SEX

Calendar Year 1954 ([1])

Age and Sex	DEATHS Navajo	 U.S. Gen. Pop.	RATE PER 1,000 POPULATION Navajo	 U.S. Gen. Pop.
ALL AGES	573	1,481,000	7.6	9.2
Male	524	844,070	8.7	10.6
Female	249	636,930	6.6	7.8
Under 1 Year	275	107,100	101.9	30.3
Male	150	61,290	107.1	34.1
Female	125	45,810	96.2	26.4
1-14 Years	77	31,500	7.2	0.7
Male	47	18,200	8.8	0.8
Female	30	13,300	5.7	0.6
15-24 Years	28	23,390	3.8	1.1
Male	16	16,560	4.6	1.6
Female	12	6,830	3.1	0.6
25-44 Years	67	106,540	18.4	4.6
Male	33	64,920	19.1	5.8
Female	34	41,620	17.8	3.5
45-64 Years	46	393,600	28.2	25.2
Male	27	248,470	31.2	32.4
Female	19	145,130	25.0	18.3
65 Years and Over	77	817,120	24.8	300.9
Male	50	433,440	31.2	326.6
Female	27	383,680	18.0	279.4
Not Stated	3	1,750		
Male	1	1,190		
Female	2	560		

[1] Prepared by Statistics and Analysis Section, USPHS, Albuquerque.
All figures are provisional pending final published data from the National Office of Vital Statistics.

WELFARE

CHILD CARE (1) — NAVAJO AGENCY BRANCH OF WELFARE — BY MONTH, NUMBER OF CASES, AND COST — 1955

MONTH	Boarding Home[2] Number	Boarding Home[2] Cost	Institutions[3] Number	Institutions[3] Cost	Special Schools[4] Number	Special Schools[4] Cost	GRAND TOTALS Number	GRAND TOTALS Cost
January	64	$2,595.00	18	$ 898.34	32	$3,724.74	114	$7,218.08
February	68	2,491.64	18	947.82	32	3,588.88	118	7,028.34
March	70	2,442.95	20	1,013.81	31	3,934.06	121	7,390.82
April	64	2,470.81	21	1,057.83	31	3,684.00	116	7,212.64
May	67	2,381.47	41	1,324.65	31	3,419.60	139	7,125.72
June	66	2,485.78	39	1,736.14	20	....	125	4,221.92
July	60	2,318.82	35	1,636.55	..	....	95	3,955.37
August	109	2,366.86	35	1,815.34	..	....	144	4,182.20
September	73	1,824.96	18	917.00	29	3,316.43	120	6,058.39
October	56	1,843.62	18	898.34	33	4,437.45	107	7,179.41
November	42	1,712.98	16	874.49	34	6,091.04	92	8,678.51
December	40	1,542.15	16	819.49	34	3,594.58	90	5,956.22
TOTALS		$26,477.04		$13,939.80		$35,790.78		$76,207.62

[1] The Branch of Welfare provides for the care of Navajo children neglected, abandoned, or deserted by their parents; and children who require temporary care pending discharge of a parent from a Sanatorium or other institution.

[2] Boarding homes are private homes generally, where child care is provided under contract.

[3] Institutions include orphanages generally, such as those operated by the Good Shepherd Mission at Ft. Defiance, the one operated by the Baptist Mission at Cottonwood, Arizona, etc.

[4] Special schools include those for the handicapped (deaf, blind), those for the feeble minded, etc.

GENERAL ASSISTANCE PAYMENTS BUREAU OF INDIAN AFFAIRS NAVAJO 1950-1955 (1)

Year	Month	Total	Number Persons	Average Per Person	Average Per Household	Payments Brdg. Homes	Number of Children
1950	January	$94,955.59	5,120[2]	18.55	39.03	$1,733.31	42
	July	7,339.69	330	22.24	29.13	2,724.44	69
1951	January	15,191.94	579	26.23	37.14	1,290.32	34
	July	13,781.70	498	27.67	36.94	3,885.11	106
1952	January	13,676.33	475	28.79	39.29	1,595.27	44
	July	13,788.30	515	26.77	39.28	2,150.96	62
1953	January	12,894.97	472	27.32	39.55	2,275.65	61
	July	11,943.10	444	26.89	38.03	2,169.63	61
1954	January	10,799.48	358	30.16	41.22	2,921.33	68
	July	11,066.51	367	30.15	40.68	4,144.90	116
1955	January	12,029.00	406	29.62	43.11	7,218.08	114
	July	12,622.00	410	30.78	43.37	3,955.37	95

[1] Compiled by Navajo Agency Branch of Welfare.

[2] Blizzard Emergency of 1949-50 increased welfare needs, and figures given include a total of $11,357.18 for general assistance during January, 1950, for 321 persons with average grants of $35.38 per person, or $45.07 per household for that month and year.

ARIZONA PUBLIC ASSISTANCE BY NUMBER OF RECIPIENTS, AMOUNT OF GRANT BY CATEGORY FOR THE PAST FIVE FISCAL YEARS — STATEWIDE (1)

ARIZONA

	TOTAL			OLD AGE ASSISTANCE			AID TO DEPENDENT CHILDREN			AID TO THE BLIND		
YEAR	Number of Recipients	Amount	Average Grant	Number of Recipients	Amount	Average Grant	Number of Recipients	Amount	Average Grant	Number of Recipients	Amount	Average Grant
5-Year Total	1,114,956	$67,763,827	$60.78	831,676	$44,647,206	$53.68	238,546	$20,446,815	$85.71	44,734	$2,669,806	$59.68
1950-51	229,165	13,617,708	59.42	168,776	8,759,734	51.90	49,915	4,241,237	84.97	10,474	616,737	58.88
1951-52	219,705	12,117,396	55.15	166,711	8,367,824	50.19	44,097	3,263,964	74.01	8,897	485,608	54.58
1952-53	217,199	13,062,444	60.14	165,668	8,940,197	53.96	43,241	3,635,452	84.07	8,290	846,795	58.72
1953-54	221,030	14,166,159	64.09	165,101	9,135,760	56.42	47,520	4,319,704	90.90	8,409	530,695	63.11
1954-55	227,857	14,800,120	64.95	165,420	9,263,691	56.00	53,773	4,986,458	92.73	8,664	549,971	63.48

[1] Prepared by Arizona State Department of Public Welfare.

NAVAJO-HOPI PUBLIC ASSISTANCE BY NUMBER OF RECIPIENTS AMOUNT OF GRANT BY PROGRAM AND FISCAL YEAR (1)

ARIZONA

	TOTAL			OLD AGE ASSISTANCE			AID TO DEPENDENT CHILDREN			AID TO THE BLIND		
	Number of Recipients	Amount	Average Grant	Number of Recipients	Amount	Average Grant	Number of Recipients	Amount	Average Grant	Number of Recipients	Amount	Average Grant
1951[2]												
1952	17,804	$ 988,057	$55.50	10,658	$483,241	$45.34	5,976	$453,658	$75.91	1,170	$51,158	$43.72
1953	20,697	1,259,007	60.83	12,024	596,736	49.63	7,485	603,346	80.61	1,188	58,925	49.60
1954	21,193	1,289,683	60.85	11,954	585,603	48.99	7,917	635,183	80.23	1,322	68,897	52.12
1955	20,964	1,307,709	62.38	11,564	579,350	50.10	8,052	653,182	81.12	1,348	71,177	52.80

[1] Provided by the Arizona State Department of Public Welfare.

[2] Data not available for Navajo-Hopi for this fiscal year.

NAVAJO-HOPI PUBLIC ASSISTANCE BY NUMBER OF RECIPIENTS, AMOUNT OF GRANT, BY PROGRAM FOR THE MONTH OF SEPTEMBER IN THE PAST FIVE YEARS (1) (2) — ARIZONA

	TOTAL			OLD AGE ASSISTANCE			AID TO DEPENDENT CHILDREN			AID TO THE BLIND		
Year	Number of Recipients	Amount	Average Grant	Number of Recipients	Amount	Average Grant	Number of Recipients	Amount	Average Grant	Number of Recipients	Amount	Average Grant
1951	1,509	$87,208	$57.79	880	$40,825	$46.39	527	$42,352	$80.37	102	$4,031	$39.52
1952	1,682	100,376	59.68	985	46,271	46.98	600	49,611	82.69	97	4,494	46.33
1953	1,760	103,398	58.75	994	42,133	42.39	661	55,961	84.66	105	5,304	50.51
1954	1,776	119,726	67.41	969	48,501	50.05	693	65,406	94.38	111	5,819	54.42
1955	1,729	117,959	62.22	919	45,673	49.70	696	66,411	95.42	114	5,875	51.54

[1] Provided by the Arizona State Department of Public Welfare.

[2] Percentage of Hopi Indians in September, 1955 Navajo-Hopi Case Loads.

Old Age Assistance = 14.91%
Aid to Dependent Children = 5.75%
Aid to Blind = 13.16%
Total Hopi Case Load (OAA, ADC, and AB) = 11.10%

TOTAL PUBLIC ASSISTANCE EXPENDITURES FOR NAVAJO IN NEW MEXICO, ANNUALLY, 1951-1955 (1)

Fiscal Year	Total	Amount of Public Assistance by Program			
		Old Age Assistance	Aid to Dependent Children	Aid to Needy Blind	Aid to the Disabled
TOTAL	$2,860,101.50	$1,216,194.00	$1,403,117.50	$134,112.00	$106,678.00
1951	296,638.50	139,492.00	137,097.00	19,210.00	839.50
1952	479,217.50	221,294.00	215,662.50	26,334.00	15,927.00
1953	597,361.50	261,917.00	276,325.00	28,870.50	30,249.00
1954	719,407.50	295,007.00	361,048.00	31,162.50	32,190.00
1955[2]	767,476.50	298,484.00	412,985.00	28,535.00	27,472.50

[1] Provided by New Mexico State Department of Public Welfare.

[2] Not adjusted for cancellations.

PUBLIC ASSISTANCE FOR NAVAJOS IN NEW MEXICO: RECIPIENTS, AMOUNT OF ASSISTANCE AND AVERAGE GRANTS, SHOWING TRENDS AS OF JUNE, ANNUALLY (1)

Month and Year	Recipients Cases	Recipients Persons	Amount of Assistance	Average Grant per Case
		ALL PROGRAMS		
July 1950	418	778	$11,536.50	$27.60
June 1951	963	2,065	35,669.00	37.04
1952	1,120	2,348	47,381.50	42.30
1953	1,184	2,452	59,352.00b	50.13
1954	1,316	2,843	68,834.50b	52.31
1955	1,386	2,965	57,874.50b	41.76c
		OLD AGE ASSISTANCE		
July 1950a	280	331	6,153.50	21.98
June 1951	516	626	14,762.50	28.61
1952	552	671	21,118.50	38.26
1953	571	647	23,469.50	41.10
1954	612	693	25,628.50	41.87
1955	636	653	16,979.00	26.70
		AID TO DEPENDENT CHILDREN		
July 1950a	108	410	4,704.50	43.56
June 1951	363	1,324	18,419.00	50.74
1952	439	1,503	21,738.50	49.52
1953	472	1,626	30,441.50	64.49
1954	567	1,981	37,896.00	66.84
1955	617	2,151	37,208.50	60.31
		AID TO NEEDY BLIND		
July 1950a	20	26	402.00	20.10
June 1951	74	104	2,211.00	29.88
1952	61	90	2,175.50	35.66
1953	58	81	2,484.00	42.83
1954	60	84	2,779.00	46.32
1955	59	80	1,947.00	33.00
		AID TO DISABLED		
June 1951d	10	11	276.50	27.65
1952	68	84	2,350.00	34.56
1953	83	98	2,957.00	35.63
1954	77	85	2,531.00	32.87
1955	74	81	1,740.00	23.51

(a) Navajo and Pueblo Indians were not identified separately prior to this date.

(b) Includes amounts deposited to the Medical Pooled Fund.

(c) Decrease in average grant result for overall decrease in percent of need met:

Program	Per Cent	
	From	To
OAA	100	65
ADC	80	65
AND	100	65
AD	95	65

(d) Program established December 1950.

[1] Provided by New Mexico State Department of Public Welfare.

NAVAJO PUBLIC ASSISTANCE BY NUMBER OF RECIPIENTS, AMOUNT OF GRANT BY PROGRAM, FOR MONTH OF JUNE IN THE PAST FIVE YEARS (1) — UTAH

Year	No. Recipients (Househ.)	Amount	Average Grant	No. Recipients (Househ.)	Amount	Average Grant	No. Recipients (Househ.)	Amount	Average Grant	No. Recipients (Househ.)	Amount	Average Grant
1951	73	$4,369.65	$51.22	29	$1,078.49	$37.19	39	$3,107.05	$79.66	5	$184.11	$36.82
1952	77	5,944.61	63.32	28	1,309.54	46.77	43	4,388.11	102.05	6	246.96	41.16
1953	89	7,517.55	68.06	30	1,501.89	50.06	53	5,740.66	108.31	6	275.00	45.83
1954	93	6,752.51	65.37	32	1,480.58	46.27	54	4,851.93	89.85	7	420.00	60.00
1955	97	6,309.04	59.38	33	1,645.08	49.85	55	4,195.96	76.29	9	468.00	52.00

[1] Provided by the Utah State Department of Welfare.

LAW AND ORDER

NAVAJO LAW AND ORDER

FINANCING

1952-1955

Source of Funds	1955	1954	1953	1952
Court Fines	$ 70,794.25	$ 67,232.50	$65,186.70	$64,284.25
Tribal Appropriations	243,667.00	198,536.00	21,000.00[1]	8,000.00[1]
Federal Appropriations	57,497.00	57,497.00	57,497.00	57,497.00

[1] Supplemented by Court Fines.

LAW AND ORDER STATISTICS FROM RECORDS OF NAVAJO POLICE AND TRIBAL COURTS BY YEAR AND TYPE OF OFFENSE (1)

1952-1955

Type of Offense	1955	1954	1953	1952
Assault	70	78	62	70
Assault and Battery	113	93	106	118
Theft	14	15	16	21
Disorderly Conduct	3,706	3,610	3,622	3,325
Reckless Driving	152	162	168	141
Liquor Violation	1,223	1,321	1,145	1,343
Adultery	68	70	63	58
Illicit Cohabitation	90	82	78	85
Failure to Support Dependent Persons	218	210	220	216
Resisting Arrest	222	216	198	203
Disobedience to Lawful Court Order	162	153	159	168
Peyote	99	102	89	96

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[1] Pertains only to infractions of the Navajo Law and Order Code—offenses which may be tried in the Tribal Courts. Excludes the 10 major crimes which, although initially investigated by the Criminal Investigation Division of the Navajo Agency Branch of Law and Order, are tried in the Federal Courts.

NAVAJO LAW AND ORDER DIVORCES — MAJOR CRIMES (1)

1952-1955

ITEM	1952	1953	1954	1955
TRIBAL DIVORCES	48	42	85	84
MAJOR CRIMES:				
Murder	1	2	..	8
Manslaughter	1	1	3	4
Rape	2	3	7	3
Incest	..	..	1	..
Arson	..	1	1	..
Assault to Kill	..	2	..	..
Assault, deadly weapon	2	..	5	2
Burglary	..	1	..	4
Larceny	..	..	2	1
Federal Liquor Violation	6	3	1	12
Grand Theft	..	2	1	2

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[1] From records available at the Navajo Agency Branch of Law and Order. In qualifying the statistics given for prior years, it is of note that the Law and Order staff underwent a great increase in 1954 and 1955 over preceding years. In 1955 the organization was stronger by 66% over its preceding strength. This fact no doubt accounts, in great part, for the increased number of convictions in the Federal Courts for major crimes committed in the Navajo country.

EDUCATION

NAVAJO SCHOOL ENROLLMENT

Type of School and Location	1955-56[1] Capacity	1955-56[1]	1954-55	1953-54	1952-53	1951-52	1938-39†
Public Schools:	**1,295**	**1,315**	**1,030**	..	..	..	..
Aztec, N. M.	120	121	116	..	..	..	..
Gallup, N. M.	500	511	341	..	..	..	..
Holbrook, Ariz.	200	200	129	..	..	..	..
Richfield, Utah	120	124	126	..	..	..	..
Snowflake, Ariez.	120	120	120	..	..	..	..
Winslow, Ariz.	235	239	198	..	..	..	..
Off-Res. Schools	..	6,848	6,882	4,969	4,934	4,709	648[3]
Albuquerque	520	676	634	351	267	287	134
Chemawa	550	491	457	275	244	203	..
Chilocco	450	420	443	304	325	322	..
Haskell	200[2]	204[2]	205	20	23	22	..
Intermountain	2,295	2,282	2,349	2,187	2,299	2,214	..
Phoenix	570	585	547	341	323	324	29
Sherman	770	808	770	590	553	517	9
Stewart	380	379	381	204	246	253	..
Cheyenne-Arapahoe	120	116	124	52	50	50	..
Fort Sill	140	111	153	87	71	60	..
Riverside	180	168	189	103	84	67	..
Ramah	..	121	135	..	..	..	..
Ignacio	..	160	161	161	79	65	169
Jicarilla	..	35	28	24	34	26	..
Towac	..	6	..	..	..	..	..
Keams Canyon	..	202	234	153	173	177	185
Alamo	..	30	20	..	..	..	..
Canoncito	..	54	52	..	..	..	44
Reservation Boarding*	**7,256**	**6,786**	**6,414**	**4,609**	**4,183**	**4,081**	**3,244**
Chinle	240	244	367	294	256	240	159
Lukachukai	135	174	182	147	148	151	183
Nazlini	196	202	195	55	36	35	..
Pinon	300	320	330	174	165	177	92
Crownpoint	445	370	352	352	349	334	291
Standing Rock	64	51	61	65	65	67	37
Ft. Defiance	525	530	378	324	381	447	319
Crystal	165	166	134	77	73	72	57

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[1] Based on data available as of December 30, 1955.

[2] Special Program Students.

[3] Includes some small schools not listed.

[4] Does not include 67 children housed in the Steamboat dormitories, but attending Ganado Public School.

NAVAJO SCHOOL ENROLLMENT

Type of School and Location	1955-56 Capacity	1955-56	1954-55	1953-54	1952-53	1951-52	1938-39†
Reservation Boarding							
Hunters Point	90	102	101	74	69	76	31
Pine Springs	64	72	80	64	67	53	46
Greasewood	165	175	197	63	62	62	71
Seba Dalkai	96	96	98	63	63	65	68
Steamboat	128	120[4]	140	74	70	72	51
Shiprock	1,150	958	912	297	188	188	433
Nenahnezad	180	164	193	176	172	162	50
San Juan	192	153	190	219	190	180	. .
Toadlena	256	211	220	250	247	242	174
Sanostee	210	163	135	. .	. .	. .	56
Tohatchi	210	175	182	164	161	185	113
Coyote Canyon	94	65	71	65	65	57	48
Tuba City	565	621	554	508	441	440	263
Dennehotso	165	113	181	161	160	156	69
Kaibeto	180	200	196	110	72	73	31
Kayenta	535	385[5]	40	35	42	38	33
Fort Wingate	546	571	546	553	450	473	469
Cheechilgeetho	90	97	91	74	36	36	55
Thoreau	180	187	185	171	155	. .	. .
Mariano Lake	90	101	103	. .	. .	. .	45**
Res. Community Schools	**1,397**	**1,483**	**1,575**	**1,338**	**1,272**	**1,259**	**1,206**
Rock Point	90	95	91	72	78	75	61
Rough Rock	64	70	74	34	35	39	42
Lake Valley	64	52	55	43	39	39	51
Pueblo Pintado	64	53	63	51	38	43	22
Torreon	64	63	85	72	63	58	38
White Horse	38	36	44	41	38	43	39
Klagetoh	66	69[6]	71	77	65	67	109
Kinlichee	90	107[7]	80	86	75	70	69
Leupp	64	67	74	74	64	33	207***
Tolani Lake	64	64	64	64	62	65	27

[5] 79 Public School children included.

[6] Excludes 30 children housed in Klagetoh dormitories, but who attend Ganado Public School.

[7] Dormitory operation only. Children attend Ganado Public School from Klagetoh and Bloomfield Public School from Huerfano.

[1] Based on data available as of December 30, 1955.

[2] Special Program Students.

[3] Includes some small schools not listed.

[4] Does not include 67 children housed in the Steamboat dormitories, but attending Ganado Public School.

[5] 79 Public School children included.

[6] Excludes 30 children housed in Klagetoh dormitories, but who attend Ganado Public School.

[7] Dormitory operation only. Children attend Ganado Public School from Klagetoh and Bloomfield Public School from Huerfano.

* Schools are classified as Reservation Boarding, Reservation Community and Day, on the basis of their status on December 30, 1955. The figures showing total enrollment in each such class are not comparable year by year since in some instances, schools formerly classed as day schools have been converted to boarding basis.

** The Mariano Lake Day School was discontinued in 1944.

*** The Leupp Boarding School was discontinued in 1942.

NAVAJO SCHOOL ENROLLMENT

Type of School and Location	1955-56 Capacity	1955-56[1]	1954-55	1953-54	1952-53	1951-52	1938-39†
Res. Community Schools							
Wide Ruins	96	96	97	71	66	59	63
Aneth	60	58	67	73	68	61	41
Beclabito	40	36	37	35	40	43	35
Huerfano	48	52[7]	38	36	40	55	26
Red Rock	94	90	90	79	75	86	80
Teec Nos Pos	64	77	90	70	63	71	61
Naschitti	150	153	73	67	75	70	56
Twin Lakes	96	90	91	82	70	65	65
Navajo Mountain	33	36	32	34	33	33	17
Shonto	64	78	82	73	82	79	30
Baca	90	120	105	69	72	72	39
Pinedale	32	38	31	35	31	33	28
Iyanbito	50	42	41	43	31	32	35
Day Schools*	**394**	**293**	**622**	**625**	**425**	**352**	**245**
Many Farms	128	109	107	76	37	39	..
Round Rock	90	67	74	57	37	39	..
Salina Springs	32	33	36	41	32	..	..
Cornfields	...	..[8]	60	69	47	36	65
Ganado	..	..[9]	65	64	64	68	..
Cove	64	57	58	60	48	..	47
Nava	...	..[10]	66	76	64	62	34
Moenave	30	27	50	40	..	..	34
Bellemont	..	..[11]	74	99	65	76	..
Burnhams*	..	..	..	..	..	..	30
Sanatorium	..	..	32	..	..	..	..

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[8] Discontinued. Children attend Ganado Public School.

[9] Discontinued. Children attend Ganado Public School.

[10] Now Public School operation.

[11] Discontinued. Children attend Flagstaff Public School.

NAVAJO SCHOOL ENROLLMENT

Type of School and Location	1955-56 Capacity	1955-56[1]	1954-55	1953-54	1952-53	1951-52	1938-39†
Hogan Schools	. .	**138**	**344**	**169**	. .	. .	. .
Burnt Corn	. .	. .	20	19	. .	. .	. .
Lukachukai	. .	. .	30	27	. .	. .	. .
Tsaile	. .	. .	26	. .	. .	. .	. .
Wheatfields	. .	. .	23	. .	. .	. .	. .
Black Rock	. .	. .	27	. .	. .	. .	. .
Lukachukai No. 2	. .	. .	12	. .	. .	. .	. .
Low Mountain	. .	6	39	30	. .	. .	. .
Naschitti	. .	. .	7	. .	. .	. .	. .
Sheep Springs	. .	. .	22	19	. .	. .	. .
Pinetree	. .	11	24	. .	. .	. .	. .
Bellemont	. .	78	82	74	. .	. .	. .
Oak Springs	. .	. .	18	. .	. .	. .	. .
Salina Springs	. .	6	. .	. .	. .	. .	. .
Big Mountain	. .	8	. .	. .	. .	. .	. .
Round Rock	. .	19	. .	. .	. .	. .	. .
Owl Springs	. .	10	14	. .	. .	. .	. .
Trailer Schools	**1,000**	**881**	**1,119**	**179**	**117**	. .	. .
Cottonwood	75	96	96	. .	. .	. .	. .
Low Mountain	75	95	110	33	. .	. .	. .
Tahchee	25	42	33	. .	. .	. .	. .
Valley Store	25	27	29	. .	. .	. .	. .
Whippoorwill	25	24	25	. .	. .	. .	. .
Canyon del Muerto	25	29	41	. .	. .	. .	. .
Borrego Pass	25	27	31	26	26	. .	. .
Biggs Store	25	19	19	. .	. .	. .	. .
Kimbeto	25	30	32	35	19	. .	. .
Nageezi	25	22	27	. .	. .	. .	. .
Pinon lodge	. .[12]	. .	24	. .	. .	. .	. .
Ojo Encino	25	26	12	. .	. .	. .	. .
Indian Wells	25	26	35	. .	. .	. .	. .
Sand Springs	25	15	26	. .	. .	. .	. .
Sunrise	. .[12]	. .	26	. .	. .	. .	. .
White Cone	50	57	31	. .	. .	. .	. .
Hatches Store	25	12	19	. .	. .	. .	. .
Mexican Water	. .[12]	. .	9	. .	. .	. .	. .
Red Mesa	. .[12]	. .	12	. .	. .	. .	. .
Sweet Water	. .[12]	. .	7	. .	. .	. .	. .
Sheep Springs	25	12	20	. .	. .	. .	. .
Tocito	25	13	13	. .	. .	. .	. .
Tohlakai	25	13	22	. .	. .	. .	. .

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[12] Discontinued.

NAVAJO SCHOOL ENROLLMENT

Type of School and Location	1955-56 Capacity	1955-56[1]	1954-55	1953-54	1952-53	1951-52	1938-39†
Trailer Schools							
Rock Springs	25	24	19	..	..	..	..
Cain Valley	25	29	32	..	..	..	..
Cameron	..[12]	..	9	..	..	..	..
Chilchinbeto	50	39	55	32	28	..	..
Copper Mine	..[12]	..	10	..	..	..	..
Cow Springs	25	20	20	..	..	..	..
Goldtooth	..[12]	..	13	..	..	..	..
Oljeto	25	10	18	..	..	..	..
Red Lake	25	39	37	..	..	..	..
Dinnebito Dam	50	16	59	..	..	..	..
Brad Springs	50	33	19	..	..	..	..
Jones Ranch	50	37	38	27	24	..	..
Springstead	75	23	60	..	..	..	..
Sanostee	..[12]	..	..	26	20	..	..
Dilcon	25	26	31	..	..	..	..
Other Schools	..	**6,816**	**5,649**	**4,254**	**3,735**	**3,334**	**988**
Church Rock	..[13]	..	..	..	..	105	..
Navajo Compressor Station	..[13]	..	..	..	..	32	..
Sawmill	..[13]	..	..	..	..	73	33
Mexican Springs	..[13]	..	..	..	..	59	54
Mission Schools	..	1,400	1,408	1,219	1,175	1,168	650
Public Schools	..	5,256	3,900	2,847	2,393	1,846	234
State, Deaf & Blind	..	..	33	30	26	18	7
Colleges & Advanced	..	160	140	84	77	..	10
Other (Trade Schools, Business Schools, Sanatorium Schools, etc.)	..	..	168	..	..	..	..
TOTAL ENROLLMENT		24,560	23,671	16,110	14,765	13,480	6,375

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† Enrollment figures pertaining to the 1938-39 school year are given for purposes of comparison. Nearly all Reservation schools concerned were then operated on a day basis, although they have since been converted to boarding basis.

[13] Discontinud as Bureau operated schools to become public school operations.

GROWTH OF NAVAJO EDUCATION (1)

YEAR	Navajo Population	Number of Children 6-18 yrs. (8)	Number of Children in School (7)	Percentage of Children Out of School	Percentage of Children in School
1868	9,000 (1)	3,015	0	100	0
1878	11,850 (1)	3,970	0	100	0
1888	18,000 (1)	6,030	35	99	.05
1898	20,500 (1)	6,867	185	97	3
1908	22,600 (1)	7,571	770	90	10
1918	30,000 (1)	10,050	1,881	81	19
1928	40,000 (1)	13,400	5,000	63	37
1930	42,000 (2)	14,070	5,719	64	36
1935	46,000	15,410	6,681	57	43
1940	48,722 (3)	16,321	6,164	62	38
1945	61,000 (4)	20,435	6,543	68	32
1950	69,000 (5)	23,115	12,751	45	55
1953	76,000	25,460	16,110	37	63
1954	78,000 (6)	26,130	23,671	9	91
1955	80,000 (6)	26,800	24,560 (9)	8	92

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(1) The information shown herein is an effort to trace the trend in general Navajo population growth, the increase in the number of school-age children, and the growth of school enrollment during the period 1868-1955. The figures given are estimates since, as we pointed out in Report No. IV, Navajo census information has always been estimated, even in recent times. The Navajo population 1868 is unknown, and the 9,000 used in the above Table is based on the number (estimated at 8,500) who reported for rations at Fort Defiance in 1868, following the return from Fort Sumner. It is probably insufficient to include the total number of Navajos who did not go to Fort Sumner, and who failed to turn up for rations after the conclusion of the Treaty of 1868.

The figure for 1878 is an estimate based on the number of Navajos who claimed rations at the Fort Defiance Agency during the Treaty Period (1868-1878). Subsequent figures are based on counts and Tribal Rolls after 1900, none of which were, or are, accurate or complete, and the figures provided remain estimates.

(2) The 1930 census showed a population, presumably by actual count, of 41,786, or approximately 42,000.

(3) In 1940 a population of 48,722 was reported in the "Human Dependency Survey". During February, 1943, Ration Book No. 2 was distributed to approximately 48,580 Navajos on the Reservation and adjacent allotted lands. At the same time, an estimated 2,000 Navajos were in the Armed Forces and 5,000-7,000 were employed off the Reservation, indicating a population between approximately 55,580 and 57,580.

(4) In October, 1943, Ration Book No. 3 was issued directly by the Office of Price Administration to 53,624 individual Navajos on the Reservation and in adjacent allotted areas. By that time, an estimated 2,500 Navajos were in the Armed Forces, and 6,000 to 7,500 were employed outside the Reservation area, indicating a total population between 62,124 and 63,624.

A year later, in October, 1944, Ration Book No. 4 was issued to 47,750 Navajos on the Reservation and adjacent allotted lands. An estimated 3,000 were then in the Armed Forces, and between 9,000 and 12,000 were employed outside the Reservation Area, indicating a total population of between 59,750 and 62,750. The 61,000 population used for 1945 in the above table is based on the Ration Book count, and is an arbitrary compromise.

(5) The 69,000 used for 1950 is based on the actual Census count plus the estimated number of persons not counted in the Navajo Country or not present at Census time.

(6) Based on the 1950 Census, but adjusted upward on the basis of Census Rolls, School Census and other records.

(7) Information relating to school enrollment was taken from files in the Navajo Agency Branch of Education for the period 1935 to 1955, and from an old document for preceding years.

(8) The figures representing the number of school-age children was estimated on the premise that 33.5% of the total population is between the ages of 6-18 years, inclusive. In a document entitled "Survey of Conditions of the Indians in the United States, Part 18," the then existing six Navajo Agency Jurisdictions reported Navajo population by age groups on the basis of the Census of 1930. Of these, two agencies used the category 6-18, which represented 33.79% of their total population. This proportion was projected over the total 1930 population of 41,786 in all six agencies to determine the number of school-age children at that period. The proportion, with regard to the same age group, as reported in the 1950 Census was 33.46%. Using 33.5% as the proportion of the total population aged 6-18 years inclusive, the total number of school-age children for each period in reference in the above Table was estimated. The same estimate was applied in the table above for 1955, despite the fact that, in June, 1955, the actual count of school-age children was 26,768 plus 984 children in areas under the jurisdiction of the United Pueblos Agency (Ramah, Canoncito and Alamo). It is of note that the estimate provided in the Table and the actual count in 1955 were almost identical.

(9) Enrollment as of December 31, 1955.

A continuing effort will be made to increase the accuracy of the above Table.

SPECIAL PROGRAM — NUMBER OF NAVAJO GRADUATES BY YEAR AND SCHOOL

1951-1955

	1951		1952		1953		1954		1955		
SCHOOL	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	TOTAL
Albuquerque	0	0	0	0	19	24	2	5	6	13	69
Chemawa	0	0	0	0	19	7	22	13	17	10	88
Chilocco	0	0	12	19	25	29	26	18	15	15	159
Intermountain	0	0	0	0	0	0	15	9	108	80	212
Phoenix	0	0	28	24	18	15	8	11	5	8	117
Sherman	69	32	33	23	40	42	36[1]	30[1]	30[2]	22[2]	357
Stewart	0	0	27	21	24	24	9	11	11	12	139
TOTAL	69	32	100	87	145	141	118	97	192	160	1,141

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[1] Excludes 14 Papago boys and 15 Papago girls graduated from Sherman in 1954.

[2] Excludes 11 Papago boys, 11 Papago girls and one Apache boy graduated from Sherman in 1955.

SPECIAL PROGRAM
STATUS OF GRADUATES BY SCHOOL (1)
1951-1955, INCLUSIVE

STATUS OF GRADUATE	Albuquerque		Chemawa		Chilocco		Intermountain		Phoenix		Sherman		Stewart		TOTAL
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
Armed Services	1	0	10	0	9	0	16	0	16	0	28	0	15	0	95
Employed off Reservation	11	17	29	16	39	38	68	57	24	32	128	67	36	38	600
Employed on Reservation	6	3	4	0	17	14	3	2	4	5	12	12	2	2	86
Attending school off Reservation	0	0	2	2	1	4	0	1	1	3	2	9		3	28
Attending school on Reservation	0	0	2	1	3	1	1	0	0	2	3	3	0	0	16
Housewives on Reservation		7		3		4		7		5		24		6	56
Housewives off Reservation (full-time)		4		3		8		0		4		22		8	49
Deceased	0	0	0	0	2	0	0	0	0	0	8	1	0	0	11
Hospital patients	1*		0	0		1	1	0	0	1	2	1		2	9
Unemployed off							2	0	1	0	2	1		0	6
Reservation	0	0	0	0	0	0	21	16	1	2	20	31	12	4	138
Unemployed on Reservation	4	6	6	4	4	7	11	6	11	4	28	5	7	5	100
No report	4	5	6	1	3	4	11	6	11	4	28	5	7	5	100
TOTALS	27	42	59	30	78	81	123	89	58	58	233	176	72	68	1,194

* Unable to work due to a back injury. Not now Hospitalized.

[1] Includes 52 non-Navajo (Papagos, Apaches) graduated from Sherman in 1954 and 1955.

NUMBER OF NAVAJO HIGH SCHOOL GRADUATES AND COLLEGE STUDENTS FOR PERIOD 1935-1955, BY SCHOOL YEAR ([1])

School Year	Number High School Graduates	Number College Stud	School Year	Number High School Graduates	Number College Stud
1935-36	38	8	1945-46	49	31
1936-37	40	9	1946-47	50	35
1937-38	39	11	1947-48	52	36
1938-39	38	10	1948-49	55	38
1939-40	39	14	1949-50	74	37
1940-41	40	16	1950-51	99	71
1941-42	43	20	1951-52	102	69
1942-43	44	21	1952-53	100	77
1943-44	46	21	1953-54	121	84
1944-45	47	29	1954-55	130	140
			1955-56	139	160

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[1] Numbers representing College students include all Navajo High School Graduates attending College, Universities, Business Colleges, Nurses Training Schools or other institutions of advanced learning with the exception of Haskell Institute. A total of 56 Navajos have received college degrees, and 32 have completed standard nursing courses.

COMPARISON OF GRADES OBTAINED IN COLLEGE WITH HIGH SCHOOL AVERAGES BY TYPE OF HIGH SCHOOL (1)

1953-1955

Type of High School Attended and Average Grade	Number of Students	Quality of College Work Corresponding by Number of Students in Each Grade Category				
		A-Average	B-Average	C-Average	D-Average	Failing
I. A-Average						
1. Mission School	8	0	5	2	1	0
2. Bureau School	7	0	4	3	0	0
3. Public School	0	0	0	0	0	0
TOTALS	15	0	9	5	1	0
II. B-Average						
1. Mission School	37	0	5	28	2	2
2. Bureau School	20	0	4	11	5	0
3. Public School	9	1	2	2	2	2
TOTALS	66	1	11	41	9	4
III. C-Average						
1. Mission School	10	0	0	7	3	0
2. Bureau School	9	0	3	3	3	0
3. Public School	6	0	1	4	1	0
TOTALS	25	0	4	14	7	0
GRAND TOTAL	106	1	24	60	17	4

[1] The table is based on the records of 106 Navajo college students assisted to attend college by the Navajo Tribe, either through the Tribal Scholarship Program or through the Tribal Loan Program during the years 1953-55, inclusive. The purpose of the table is to show the relative degree of correspondence between the quality of High School work as evidenced by the average grade given by the three types of high schools for four years of high school work in contrast with average grades attained by the same students so far in their college work. Not all of the college students so far assisted by the Navajo Tribe are accounted for in the table, and it should not be interpreted as implying that only four have so far failed in their college work, dropped out of college, or been dropped by the Scholarship Committee for failure to meet requirements other than minimum grades (the rules of the Committee require a minimum of 15 semester hours of work per semester as well as a C-average). When the number of College graduates is sufficiently great to be significant the table will be revised to compare 4-year averages in high school and college.

DISTRIBUTION OF NAVAJO TRIBAL SCHOLARSHIP RECIPIENTS BY SECULAR AND DENOMINATIONAL SCHOOLS — 1953-1956

SCHOOL YEAR	Secular Schools		Denominational Schools		Total Scholarship Recipients
	Number	Percent	Number	Percent	
1955-56	54	72.0	21	28.0	75
1954-55	54	76.1	17	23.9	71
1953-54	18	72.0	7	28.0	25

PROBABLE NUMBER OF NAVAJO HIGH SCHOOL GRADUATES BY YEAR FOR 10-YEAR PERIOD

1956-1966 ([1])

SCHOOL YEAR	NUMBER OF EXPECTED HIGH SCHOOL GRADUATES
1956-57	185[2]
1957-58	293[3]
1958-59	352[4]
1959-60	404
1960-61	476
1961-62	500
1962-63	1,600
1963-64	1,750
1964-65	1,800
1965-66	1,840

[1] Prepared by Dr. Don May, Navajo Agency Branch of Education, on the basis of available information.

[2] It was estimated that 185 Navajo boys and girls are now (1955-56) in their Junior year in High School, and assumed that all of this group will graduate.

[3] The number of Navajos now estimated in the Sophomore year in High School was reduced by 10%, representing anticipated drop-out.

[4] The number of Navajos now estimated in the Freshman year was reduced by 15% representing drop-out or failure to graduate from High School.

[5] The number of Navajo boys and girls expected to graduate in the period 1959-60 to 1965-66 was estimated on the basis of present enrollment in grades 2-8, inclusive in all types of schools, reduced by an arbitrary 20% representing that proportion in each grade not expected to graduate for various reasons (e.g., failure to enter high school, marriage, drop-out before graduation, etc.).

PROBABLE NUMBER OF NAVAJO SPECIAL PROGRAM GRADUATES BY YEAR FOR 5-YEAR PERIOD

1956-1960

SCHOOL YEAR	NUMBER OF EXPECTED SPECIAL PROGRAM GRADUATES
1955-56	605
1956-57	786[1]
1957-58	697[2]
1958-59	1,092
1959-60	643

[1] The total of those presently enrolled who might be expected to complete the last year of their program to graduate in 1957 was reduced by 10%, representing anticipated drop-out.

[2] The number of Special Program students expected to graduate in the years 1958-60, inclusive, was based on the number of students presently enrolled in various years of the program, reduced by an arbitrary 20% to represent drop-out before graduation.

RELOCATION

RELOCATION, NAVAJO AGENCY, FISCAL YEAR 1955

Number and Percent by Destination

				FAMILIES						FAMILIES AND SINGLE RETURNED					
	Single Men		Single Women	Total		There		Returned		Total		Units		Persons	
Destination	There	Ret.	There	Units	Pers.	Units	Pers.	Units	Pers.	Units	Pers.	No.	%	No.	%
Denver	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Chicago	3	0	0	0	0	0	0	0	0	3	3	0	0	0	0
Oakland	6	2	1	5	19	5	19	0	0	12	26	2	17	2	8
Los Angeles	37	7	3	24	106	19	82	5	24	64	146	12	19	31	21
Union Pacific	5	2	0	18	61	14	50	4	11	23	66	6	26	13	20
TOTAL	52	11	4	47	186	38	151	9	35	103	242	20	19	46	19

Number and Percent by Marital Status

	TOTAL NUMBER							
	Units			Persons			Percent Returned	
Marital Status	All	There	Returned	All	There	Returned	Units	Persons
Single Males	52	41	11	52	41	11	21	21
Single Women	4	4	0	4	4	0	0	0
Families	47	38	9	186	151	35	19	19
TOTAL	103	83	20	242	196	46	19	19

[1] Compiled Decembe 2, 1955 by Navajo Agency Branch of Relocation.

NUMBER OF NAVAJO RELOCATEES
BY SEX AND MARITAL STATUS
LOS ANGELES AREA 1952-1956 ([1])

ITEM	FISCAL YEAR			
	1952	1953	1954	1955
Totals, all units	54	65	147	167
Males, total	50	62	116	147
Single	17	31	72	98
Married	22	22	44	49
Marital status unknown	11	9	0	0
Females, total	4	3	31	20
Single	0	1	28	18
Married	1	1	3	2
Married status unknown	3	1	0	0

[1] Compiled by Los Angeles Field Relocation Office.

MEDIAN AGE OF NAVAJO RELOCATEES
BY YEAR AND SEX ([1])
LOS ANGELES AREA

CLASS BY AGE	1952		1953		1954		1955	
	Male	Female	Male	Female	Male	Female	Male	Female
Under 18 years	0	0	2	0	1	1	1	0
18-22 years	3	1	20	0	39	18	71	17
23-27 years	8	2	19	1	36	9	36	1
28-32 years	15	0	9	0	21	1	22	2
33-37 years	9	0	3	1	7	1	7	0
38 and over	6	0	3	1	8	1	9	0
Total cases	41	3	56	3	112	31	146	20
Median Age	31.1	..	24.5	..	25.2	21.0	23.1	18.8
Age Unknown	7	1	5	0	4	0	1	0

[1] Compiled by Los Angeles Field Relocation Office.

AVERAGE YEARS OF SCHOOLING AND RANGE BY SEX — NAVAJO RELOCATEES LOS ANGELES AREA — 1952-1956 (1)

ITEM	FISCAL YEAR			
	1952	1953	1954	1955
All units:[2]				
Average	8.0	8.1	7.7	7.3
Range	0-12	2-14	1-14	1-15
Males:				
Average	7.8	8.0	7.2	7.0
Range	0-12	2-14	1-12	1-15
Females:				
Average	11.0	10.6	9.5	9.1
Range	10-12	7-13	2-14	5-12

[1] Compiled by Los Angeles Field Relocation Office.

[2] Information on years attended school is not available for a small number of units in each year.

[3] Does not include 44 graduates of Special 5-Year Program since their inclusion would distort comparative data for 1952-56.

VOCATIONAL TRAINING RECORD OF NAVAJO RELOCATEES BY SEX AND YEAR LOS ANGELES AREA — 1952-1956 (1)

ITEM	FISCAL YEAR			
	1952	**1953**	**1954**	**1955**
All units:				
Received vocational trg.	15	37	57	71
No vocational trg.	7	5	26	92
Information not available	32	23	64	4
Males:				
Received vocational trg.	14	35	45	63
No vocational trg.	7	5	18	81
Information not available	29	22	53	3
Females:				
Received vocational trg.	1	2	12	8
No vocational trg.	0	0	8	11
Information not available	3	1	11	1

[1] Compiled by Los Angeles Field Relocation Office.

NAVAJO RELOCATEES — MARRIED MEN NUMBER WITH ENGLISH SPEAKING WIVES AND ACCOMPANIED BY FAMILY LOS ANGELES AREA — 1952-1956 (1)

ITEM	FISCAL YEAR			
	1952	1953	1954	1955
Number married men	22	22	44	49
Wife spoke English	4	6	16	33
Wife did not speak English	0	1	0	2
Information not available	18	15	28	14
Accompanied by family	4	4	18	34
Not accompanied by family	3	13	12	14
Information not available	15	5	14	1

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[1] Compiled by Los Angeles Field Relocation Office

CHILDREN OF NAVAJO RELOCATEES LOS ANGELES AREA — 1952-1956 (1)

ITEM	FISCAL YEAR			
	1952	1953	1954	1955
Number of families, total	23	23	47	51
Number of children	22(15)	29(19)	69(32)	124(48)
Number of School age	7(13)	6(16)	20(44)	51(42)
Number born here	0(5)	1 7)	4(27)	2(38)

Note: Figures in parentheses represent number of families for which information was available for each item.

[1] Compiled by Los Angeles Field Relocation Office.

EMPLOYMENT OF NAVAJO RELOCATEES
NUMBER OF JOB PLACEMENTS BY SEX
LOS ANGELES AREA — 1952-1956 (1)

ITEM	FISCAL YEAR			
	1952	1953	1954	1955
Males, number receiving—				
One placement	15	39	45	88
Two placements[2]	1	10	28	19
Three placements[2]	2	3	7	4
Four or more placements[2]	0	2	3	2
Females, number receiving—				
One placement	3	3	23	19
Two placements[2]	0	1	7	2
Three placements[2]	0	0	3	0
Four or more placements	0	0	1	0

[1] Compiled by Los Angeles Field Relocation Office.

[2] Reductions in force; strikes; find better jobs on own initiative, etc.

EMPLOYMENT OF NAVAJO RELOCATEES
BEGINNING AND CURRENT WAGE AND RANGE BY SEX
LOS ANGELES AREA — 1952-1956 (1)

ITEM	FISCAL YEAR			
	1952	1953	1954	1955
Males:				
Beginning wage:[2]				
Average	$1.45(24)	$1.54(45)	$1.48(78)	$.1.49(110)
Range	.85-1.63	1.20-1.79	1.13-1.83	.75-1.93
Current wage:[2]				
Average	$1.68(3)	$1.86(14)	$1.66(21)	$1.63(48)
Range	1.54-1.91	1.50-2.12	1.10-2.01	1.00-2.20
Females:				
Beginning wage[2]				
Average	N.A.[3]	.85(4)	$1.00(20)	.91(20)
Range	N.A.	.75-1.05	.75-1.40	.75-1.15
Current wage:				
Average	N.A.	N.A.	N.A.	$1.02(7)
Range	N.A.	N.A.	N.A.	.75-1.25

[1] Compiled by Los Angeles Field Relocation Office.

[2] Figures in parentheses represent number of units for which information was available.

[3] N.A.—Not available.

PRECIPITATION RECORD—NAVAJO RESERVATION

YEAR	ARIZONA				NEW MEXICO	
	Ft. Defiance	Kayenta	Leupp	Tuba City	Shiprock	Crownpoint
1955	8.49	6.05	5.28	4.21	2.94[3]	1.86[3]
1954	11.20	6.70	5.17	4.43	5.90	8.01
1953	7.97	6.98	5.90	5.35	6.67	6.04
1952	12.99	11.77	7.25	13.25	6.15	11.23
1951	9.92	8.37	8.18	5.91	4.53[2]	7.55
1950	6.16	4.53	3.34	6.34	2.10	........[1]
1949	13.22	11.41	7.34	7.80	6.92	7:30
1948	14.59	9.34[2]	5.24	4.29	8.47	10.26
1947	12.46	9.34	........[3]	7.82	8.06	12.34
1946	11.89	........[3]	........[3]	6.90	5.41	10.61
1945	15.77	........[3]	........[1]	3.95	5.04	8.54
1944	12.99	........[3]	........[1]	5.08	6.00[2]	10.27
1943	9.72	3.63	........[1]	6.71	........[1]	8.76
1942	8.90	........[3]	6.48	5.64	........[1]	........[1]
1941	23.73	........[1]	10.56	15.20	15.85	........[1]
1940	15.30	........[3]	10.40[2]	8.90[2]	8.85	11.03
1939	10.27	........[3]	4.49	4.84	6.97[2]	7.48
1938	10.61	8.80	2.52	........[3]	7.55[2]	11.40
1937	12.96	8.56	6.66	6.09	6.52	12.47
1936	13.08	5.76	4.54	7.08	5.76	12.28
1935	10.56	8.37	7.12	6.21	7.63[2]	11.60
1934	6.84	5.76	........[3]	6.75	4.24	7.63
1933	9.34	8.38	........[1]	5.47	4.77	10.21
1932	9.95	10.02	........[1]	5.27	5.20	12.86
1931	15.18	10.24	........[1]	6.79	9.11	15.55
1930	11.62	9.22	........[1]	8.11	6.53	7.28
1929	........[3]	8.22	........[1]	........[3]	10.26	13.49
1928	........[1]	7.57	........[1]	5.07	8.69	11.41
1927	........[1]	11.05	........[1]	13.10[2]	10.55	17.26
1926	........[1]	6.36	........[3]	10.23	11.83	9.71
1925	........[1]	10.59	7.87[2]	6.44		11.18
1924	........[1]	5.70	........[3]	1.58		14.53
1923	........[1]	10.51	........[1]	........[3]		15.86
1922	........[1]	8.29	........[3]	4.50		7.68
1921	........[1]	10.91	8.36	7.11		11.66
1920	........[1]	4.63[2]	7.87	7.20		8.25
1919	........[1]	........[3]	6.66	........[3]		16.99
1918	........[1]	........[3]	6.27	........[1]		5.00
1917	........[1]	........[3]	5.94	6.44		5.03

YEAR	ARIZONA				NEW MEXICO	
	Ft. Defiance	Kayenta	Leupp	Tuba City	Shiprock	Crownpoint
1914	........[1]		........[3]	11.19		12.85
1913	19.37[2]			6.59		
1912	7.90[2]			6.59		
1911	18.28[2]			9.13		
1910	10.51[2]			5.60		
1909	14.59[2]			7.02		
1908	12.15[2]			7.90[2]		
1907	13.67[2]			........[3]		
1906	11.83[2]			12.57		
1905	20.65			........[3]		
1940	11.14			........[3]		
1903	18.51			........[3]		
1902	12.87			3.50[2]		
1901	13.33			3.00[2]		
1900	6.52			........[3]		
1899	12.63			2.63		
1898	11.78			........[3]		
1897	........[3]			........[3]		
[4]						
1860	11.70					
1859	11.31					
1858	11.97					
1857	13.06					
1856	11.63					
1855	17.08					
1854	22.44					
1853	13.87					
1852	........[3]					
TOTAL	456.25	235.01	146.17	313.65	189.66	393.75
NO. YEARS	35	28	22	45	26	37
AVERAGE	13.04	8.39	6.64	6.97	7.29	10.64

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[1] No record.

[2] Partially estimated.

[3] Record incomplete.

[4] No records available relative to period 1860-1897.

[5] Fort Defiance discontinued, and record taken at Window Rock.

QUANTITY & VALUE OF WOOL & MOHAIR NAVAJO—COMPARATIVE

1935-1953 (1)

Year	Pounds Wool	Value	Pounds Mohair	Value
1935	2,082,318	$		$
1936	2,187,641			
1937	2,111,542			
1938	2,139,350			
1939	1,935,988			
1940	2,297,868	498,045	148,802	38,133
1941	3,042,508	871,180	117,205	39,516
1942	2,616,515	784,654	137,346	54,938
1943	2,477,574	743,262	106,375	42,550
1944	2,600,000	690,000	102,000	40,800
1945	2,300,000	690,000	90,000	36,000
1946	2,133,387	640,016	83,489	33,396
1947	2,344,781	703,434	214,688	64,406
1948	2,139,336	678,979	77,890	19,984
1949	2,461,745	782,652	185,864	46,430
1950	2,367,973	919,543	154,330	54,560
1951	1,937,586	1,457,955	126,859	92,020
1952	1,958,170	748,827	149,900	58,643
1953	2,061,223	746,693	159,907	68,917

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1 Production statistics no longer available.

AVERAGE INCOME PER SHEEP UNIT

ANNUAL

Year	Income
1941	$4.49
1942	4.43
1943	3.01
1944	3.76
1945	4.24
1946	4.77
1947	7.19
1948	7.80
1949	8.13
1950	9.31

10-YEAR AVERAGE

10-Year Average, 1941-1950 by Classes of Livestock

Class of Livestock	Average Income Per Sheep Unit
	$
Cattle	9.45
Sheep	7.77
Goats	4.88
Horses	0.37

STATUS OF LAND UNDER NAVAJO JURISDICTION INSIDE RESERVATION BY STATE AND COUNTY IN ACRES

(Includes Hopi)

State & County	Tribal Land	Trust Allotment	Private Land	Total
Arizona				
Apache	4,022,936	31,325	8,511	4,062,772
Navajo	3,353,000	45,880	149,460	3,548,340
Coconino	3,829,160	2,980	4,938	3,837,078
TOTAL	11,205,096	80,185	162,909	11,488,190
New Mexico				
McKinley	678,081	0	0	678,081
San Juan	1,711,973	0	0	1,711,973
TOTAL	2,390,054	0	0	2,390,054
Utah				
San Juan	1,184,073	9,600	56,310	1,249,983
GRAND TOTAL	14,779,223	89,785	219,219	15,088,227

STATUS OF LAND UNDER NAVAJO JURISDICTION OUTSIDE RESERVATION BY STATE & COUNTY IN ACRES

State & County	Tribal Land	Trust Allotment	Resettlement Land	Administr. Reserves	Exchange Land	Total
Arizona						
Apache		5,320				5,320
Navajo		2,960				2,960
Coconino		2,080				2,080
TOTAL		10,360				10,360
New Mexico						
McKinley	177,782	357,920	70,267	2,570	181,944	790,483
San Juan	6,400	143,040		1,590	31,680	182,710
Sandoval		57,120		40		57,160
Valencia	3,200[1]	40,000[1]			12,800[1]	56,000[1]
Rio Arriba		800				800
TOTAL	187,382	598,880	70,267	4,200	226,424	1,087,153[2]
Utah						
San Juan		1,120				1,120
GRAND TOTAL	187,382	610,360	70,267	4,200	226,424	1,088,273

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[1] Ramah.

[2] Does not include approximately 600,000 acres of Public Domain administered by BLM and used by Navajos.

LIVESTOCK CENSUS[1]
(Includes Navajo and Hopi except as indicated)

Year	Mature Sheep	Mature Goats	Mature Cattle	Mature Horses	Total Mature Sheep Units	Total Lambs
1928[3]	1,375,000		37,500	67,500	1,862,500	
1930	574,821	186,768	25,000	50,000	1,111,589	349,237
1931	631,427	196,945	25,000	50,000	1,178,372	345,242
1932	575,913	173,585	21,000	44,000	1,053,498	257,148
1933	544,726	164,999	20,000	42,000	999,725	277,772
1934	502,619	147,427	19,000	40,000	926,046	289,178
1935	548,579	92,222	19,020	40.270	918,231	252,554
1936	459,285	73,600	12,557	32,007	711,148	281,342
1937	391,103	57,819	18,053	39,835	720,309	295,802
1940[4]	356,791	57,113	13,045	31,100	621,584	302,674
1941	433,733	72,018	.....	.....		
1951[4]	234,619	39,014	9,205	27,439	449,808	146,071
1952	220,476	41,997	8,847	27,802	433,983	162,739
1953	233,109	45,196	9,997	27,309	454,838	177,230
1954	252,261	52,678	11,149	26,972	484,395	173,393
1955	257,042	55,945	12,583	26,890[2]	497,769	172,408

[1] From records on file at Navajo Agency. Older figures are estimates.

[2] Includes 688 yearling colts counted as mature stock.

[3] Includes lambs, kids and other immature stock, as well as mature goats.

[4] Excludes Hopi.

LIVESTOCK INCOME
NAVAJO—COMPARATIVE

	1951	1952	1953	1946
Number of families having agricultural income	9,078	9,013	9,345	11,177
Total agricultural income	$6,631,552	$4,719,124	$3,505,502	$3,291,961
Gross income—Livestock	$6,011,511	$3,541,728	$2,954,620	$1,113,342
Sheep:				
Number of ewes	258,403	252,395	259,249	352,658
Number of ewes sold	14,310	9,611	7,948	19,100
Number of lambs sold	84,328	78,313	73,992	133,360
Income—Sale of lambs	$1,391,245	$ 967,886	$ 651,689	$ 778,884
Pounds of wool	1,937,586	1,958,170	2,061,223	2,133,387
Total value of wool	$1,457,955	$ 748,827	$ 746,693	$ 640,016
Total income—Sheep and wool	$4,575,793	$2,599,245	$2,305,674	$1,418,900
Cattle:				
Number of cows	8,284	7,982	8,793	9,726
Number of cattle sold	4,881	3,382	2,481	3,191
Number of calves sold	1,691	613	828	1,146
Total income—Cattle	$ 733,470	$ 454,292	$ 216,239	$ 194,160

RANGE RESOURCES
(Navajo Area)

TYPE NO.	RANGE TYPE	ACREAGE	CARRYING CAPACITY
1	Grassland	4,228,199	238,770
2	Mountain meadow	3,748	136
3	Weeds (perennial)	12,671	286
4	Sagebrush	806,778	55,468
5	Browse	4,040,557	108,409
6	Conifers (timber species)	546,356	22,103
7	Inaccessible	716,128	None
8	Barren	925,751	None
9	Woodland (pinyon-juniper)	3,102,645	85,732
10	Aspen	1,282	18
	Cultivated (includes 18,420 acres of irrigated land)	36,720*	None
	TOTAL	14,420,835	512,922

*1952

NAVAJO RESERVATION
District Summary by States and Counties
(Surface Area in Acres)

District Number	ARIZONA			NEW MEXICO		UTAH	TOTAL
	Coconino	Apache	Navajo	San Juan	McKinley	San Juan	Surface Area Acres
1	1026,584		8,956				1,035,540
2	361,106		434,250			299,620	1,094,976
3	1,756,235		3,101				1,759,336[2]
4	6,604	144,284	750,279				901,167[2]
5	630,950		181,250				812,200[2]
6[1]	55,599		443,649				499,248[2]
7		79,738	911,911				991,649[2]
8		348,709	643,530			458,357	1,450,596
9		607,373		16,684		372,219	996,276
10		794,484					794,484
11		417,235		17,004			434,239
12		205,503		1,009,664		119,787	1,334,954
13				396,100			396,100
14				161,834	475,267		637,101
15				60,800	123,762		184,562
17		990,474	171,414				1,161,888
18		474,972		49,887	79,052		603,911
Total	3,837,078	4,062,772	3,548,340	1,711,973	678,081	1,249,983	15,088,227

[1] District 6 is Hopi.

[2] The figures given in the table above are based on old estimates, and the total acreages currently used for Districts 3-7 inclusive are at variance with the totals indicated above. However, no recent data is available relating to the several Districts in terms of acreages lying within the various counties.

AGRICULTURAL INCOME

Navajo (1)

Year	Stock Raising	Farm Crops	Total
1953	$2,954,680	$ 550,822	$3,505,502
1952	3,541,728	1,177,396	4,719,124
1951	6,011,511	620,041	6,631,552
1950	5,572,037	543,656	6,115,693
1949	4,915,738	1,057,059	5,972,797
1948	4,652,259	1,099,825	5,752,084
1947	4,205,548	954,007	5,159,555
1946	2,907,922	952,045	3,859,967
1945	2,702,615	800,084	3,502,699
1944	2,676,198	581,764	3,257,962
1943	2,095,614	765,440	2,861,054
1942	3,189,469	899,845	4,089,314
1941	3,239,659	409,785	3,649,444
1940	1,762,329	470,294	2,232,623

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[1] Production statistics no longer available.

AGRICULTURAL INCOME

(Farm Crops and Livestock)

Navajo

Year	Total Value of Sales	Value of Products Cons. in Home	Total Gross Income
1953	$2,022,944	$1,482,508	$3,505,502
1952	2,828,889	1,890,235	4,719,124
1951	4,354,805	1,890,235	4,719,124
1951	4,354,805	2,276,747	6,631,552
1950	4,116,720	1,998,973	6,115,693
1949	3,655,926	2,316,871	5,972,797
1948	3,343,090	2,408,994	5,752,084
1947	3,206,464	1,953,091	5,159,555
1946	2,382,711	1,477,256	3,291,967
1945	2,311,050	1,191,649	3,502,699
1944	2,180,798	1,077,164	3,257,962
1943	1,853,156	1,007,898	2,861,054
1942	2,462,972	1,626,243	4,089,314
1941	2,509,082	1,140,362	3,649,444
1940	1,530,003	702,620	2,232,623

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[1] Production statistics no longer available.

NAVAJO LIVESTOCK INDUSTRY
ACTUAL & PERMITTED RESERVATION STOCK — 1955

District Number	Number of Permits	Number of Families, est.	Sheep Units Total Permitted	Sheep Units Total Stocking	Actual Stocking vs. Permitted No.
1	359	410	34,835	32,286	— 2,549
2	285	320	20,304	23,713	+ 3,409
3	521	659	49,031	37,358	—11,673
4	457	767	30,182	32,127	+ 1,945
5	267	343	27,991	18,720	— 9,271
7	673	791	54,022	44,821	— 9,201
8	427	515	30,591	34,384	+ 3,793
9	427	525	25,043	28,435	+ 3,392
10	613	701	34,322	29,956	— 4,366
11	359	421	17,097	14,382	— 2,715
12	1,049	1,817	57,232	56,242	— 990
13	207	412	16,361	11,492	— 4,869
14	623	685	31,177	38,066	+ 6,889
15(on)[1]	110	(635)[3]	9,378	7,695	— 1,683
16[2]	...	(1,670)[3]	.....	.....	.....
17	887	1,184	70,572	56,530	—14,042
18	690	708	42,985	31,562	—11,423
TOTAL	7,954	10,258	551,123	497,769	—53,354[4]

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[1] Includes only that part of District 15 on the Reservation.

[2] District 16 is outside the Reservation.

[3] Outside Reservation. Not included in totals.

[4] Based on voluntary 1955 count.

NAVAJO LIVESTOCK INDUSTRY
RESERVATION GRAZING RESOURCES — RANGE USE — 1955

District No.	Surface Area Acres	Surface Area Square Miles	Carrying Capacity, S.U. Y.L.	Total Range Use, S.U. Y.L.	Range Use vs. Carrying Cap.	Percent Over or under Carrying Cap.
1	1,035,540	1,618	34,221	32,286	— 1,935	— 6%
2	1,094,976	1,711	20,506	23,713	+ 3,207	+16%
3	1,743,397	2,724	47,288	37,358	— 9,930	—21%
4	878,133	1,372	23,372	32,127	+ 8,755	+37%
5	785,788	1,228	26,351	18,720	— 7,631	—29%
7	925,088	1,449	49,727	44,821	— 4,906	—10%
8	1,450,596	2,268	29,978	34,384	+ 4,406	+15%
9	996,276	1,557	21,108	28,435	+ 7,417	+35%
10	794,484	1,241	33,717	29,956	— 3,761	—11%
11	434,239	678	17,261	14,382	— 2,879	—17%
12	1,334,954	2,086	52,385	56,242	+ 3,857	+ 7%
13	396,100	619	16,703	11,492	— 5,211	—31%
14	637,101	995	25,321	36,894	+11,573	+46%
15 (on[1]	184,562	288	7,171	6,406	— 765	—11%
16 & 19[2]	1,051,000	1,063	92,395	....	....	....
17	1,161,888	1,815	74,895	59,493	—15,402	—21%
18	603,911	944	33,008	27,502	— 5,506	—17%
TOTAL	15,508,033	23,656	512,922	494,211	—18,711	— 4%

[1] Includes only that part of District 15 on the Reservation.

[2] District 16 is outside the Reservation, and the area figures include allotments, Tribal purchases, RR exchange land in Districts 15, 16, 19, all of which lie outside the exterior boundaries of the Navajo Reservation.

NAVAJO LIVESTOCK INDUSTRY
LIVESTOCK BY CLASSES — 1955

District Number	No. Mature Sheep	No. Lambs	No. Mature Goats	Number Kids	No. Mature Cattle	Number Calves	No. Mature Horses	Number Colts
1	19,466	11,611	2,552	1,858	617	297	1,455	128
2	13,259	8,062	3,424	2,328	430	185	1,060	86
3	20,354	13,107	3,163	2,256	1,144	534	1,744	192
4	14,759	9,687	3,925	2,835	1,092	392	1,678	69
5	8,407	6,336	1,201	1,070	938	490	1,072	83
7	23,211	15,794	4,497	3,262	912	481	2,693	277
8	17,383	9,798	4,586	2,858	950	415	1,723	182
9	14,828	9,685	5,089	3,602	397	183	1,386	94
10	14,742	10,070	2,805	1,913	711	301	1,765	93
11	6,054	4,810	1,772	1,440	424	214	888	60
12	26,506	17,947	7,105	5,558	1,414	637	3,311	120
13	7,303	5,681	974	811	210	98	475	52
14	16,616	10,630	4,821	3,252	1,756	974	1,921	82
15 (on)[1]	3,360	2,494	965	717	350	173	394	29
17	34,820	25,163	5,300	3,957	440	226	2,930	212
18	15,974	11,533	3,766	2,813	798	338	1,707	154
TOTAL	257,042	172,408	55,945	40,530	12,583	5,938	26,202	1,913

[1] Includes only that part of District 15 on the Reservation.

NAVAJO LIVESTOCK COUNT
MATURE SHEEP UNITS BY LAND MANAGEMENT DISTRICTS

1936-1955

District Number	Carrying Capacity	STOCKING—MATURE SHEEP UNITS Y. L.					
		1955	1954	1953	1952	1951	1950
1	34,221	32,286	31,524	30,275	27,057	25,676	26,056
2	20,506	23,713	19,749	18,866	18,007	18,228	16,636
3	47,288	37,358	35,908	36,332	34,131	36,901	34,830
4	23,372	32,127	40,482	36,367	35,464	33,000	33,051
5	26,351	18,720	18,938	18,150	17,691	18,568	19,277
7	49,727	44,821	40,732	37,641	37,061	36,828	38,015
8	29,978	34,384	30,148	28,752	27,182	26,859	26,753
9	21,018	28,435	26,739	23,922	22,912	24,916	25,969
10	33,717	29,956	32,472	28,159	27,593	27,407	29,642
11	17,261	14,382	14,428	12,896	12,348	12,054	13,759
12	52,385	56,242	51,257	48,982	47,166	50,706	52,856
13	16,703	11,492	10,049	9,981	9,796	10,361	11,993
14	25,321	38,066	38,294	33,402	29,186	30,990	31,457
15 (on)	7,171	7,695	7,410	6,198	6,198	7,097	8,716
17	74,895	56,530	55,578	54,570	55,114	59,743	58,746
18	33,008	31,562	30,687	30,345	29,965	26,886	32,680
Total	512,922	497,769	484,395	454,838	436,871	446,220	460,526

District Number	Carrying Capacity	STOCKING—MATURE SHEEP UNITS Y. L.					
		1943	1942	1941	1940	1937	1936
1	34,221	30,946	37,463	46,231	50,021	53,825	42,121
2	20,506	19,620	23,006	23,941	25,679	28,221	26,238
3	47,288	44,543	49,011	52,273	51,912	56,514	44,764
4	23,372	41,340	40,390	42,618	47,258	49,606	42,718
5	26,351	24,676	26,596	23,463	23,196	29,808	17,108
7	49,727	42,783	40,169	34,582	39,894	56,425	51,419
8	29,978	30,363	34,251	33,986	33,162	41,709	25,539
9	21,018	34,866	37,034	35,835	45,422	39,521	28,676
10	33,717	32,911	35,519	35,474	37,767	43,539	40,769
11	17,261	15,952	15,119	14,456	14,708	20,991	19,987
12	52,385	63,763	73,780	70,432	69,798	66,764	59,464
13	16,703	16,591	19,033	17,992	21,294	19,403	18,980
14	25,321	38,517	40,883	45,921	49,687	52,808[1]	40,388
15 (on)	7,171	8,680	11,779	9,739	11,670	15,225[1]	30,586
17	74,895	74,126	69,519	66,619	63,499	87,808[1]	56,664
18	33,008	32,590	30,017	31,320	36,617	52,121[1]	70,591
Total	512,922	552,267	583,569	584,882	621,584	707,879	656,774

[1] Include seasonal use by livestock from Taylor Grazing District 7.

NAVAJO LIVESTOCK — OUTSIDE RESERVATION

NEW MEXICO GRAZING DISTRICT NO 7 (DISTRICTS 15, 16, 19) (1)

District & Year	Number Permits	Carrying Capacity	T.Stock M.S.U.	Mature Sheep	Lambs	Mature Goats	Kids	Mature Cattle	Calves	Horses
1947										
District 15	...	35,818								
Listrict 16	...	31,285								
District 19	...	25,292								
TOTAL	1,344	92,395	144,446	102,407[2]	...	...	...	1,136	...	7,499
1950										
District 15	443	...	53,344	28,601	20,683	4,459	2,292	1,326	618	2,996
District 16	597	...	47,242	22,204	16,449	5,560	4,194	1,537	712	2,666
District 19	372	...	60,227	36,814	28,773	4,917	3,723	1,789	854	2,268
TOTAL	1,412	...	160,813	87,619	65,905	14,936	10,846	4,652	2,184	7,930
1951										
District 15	441	...	37,463	20,298	12,585	4,027	2,537	662	305	2,098
District 16	544	...	23,874	9,727	6,031	4,211	2,652	549	253	1,548
District 19	379	...	33,490	20,735	12,856	3,278	2,065	638	293	1,385
TOTAL	1,364	...	94,827	50,760	31,422	11,516	7,254	1,849	851	5,031
1952										
District 15	474	...	41,907	21,474	15,892	4,278	3,251	381	152	2,926
District 16	1,098	...	17,956	11,481	8,496	1,841	1,399	111	44	838
District 19	281	...	22,409	13,238	9,796	3,178	2,415	37	15	1,169
TOTAL	1,853	...	82,272	46,194	34,184	9,297	7,065	529	211	4,933
1953										
District 15	435	...	27,768	14,030	10,663	3,558	2,669	245	137	1,840
District 16	547	...	21,096	9,382	7,130	4,043	3,032	219	123	1,359
District 19	345	...	22,000	13,253	10,073	3,377	2,533	5	3	1,070
TOTAL	1,327	...	70,864	36,665	27,866	10,978	8,234	469	263	4,269
1954										
District 15	462	...	32,564	15,513	10,704	4,921	3,592	285	148	2,198
District 16	496	...	34,932	16,448	11,349	7,611	5,556	337	75	1,905
District 19	410	...	28,003	15,997	11,038	4,022	2,936	51	26	1,556
TOTAL	1,368	...	95,499	47,958	33,091	16,554	12,084	673	349	5,659
1955										
District 15	269	...	20,628	11,234	7,527	2,524	1,818	340	160	1,034
District 16	366	...	28,784	14,190	9,507	5,739	4,132	348	164	1,423
District 19	473	...	33,117	18,875	12,646	5,457	3,929	44	21	1,713
TOTAL	1,108	...	82,529	44,299	29,680	13,720	9,879	732	345	4,170

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[1] BLM administers Public Domain and R.R. exchange lands. Area also includes tribally purchased land, allotted land, etc.

[2] Includes mature goats.

NAVAJO LIVESTOCK INDUSTRY
RESERVATION DISTRICTS BY STATES (1)
1955

	ARIZONA			NEW MEXICO			UTAH		
District Number	Area in Acres	Carrying Capacity	Total Stock S.U.Y.L.	Area in Acres	Carrying Capacity	Total Stock S.U.Y.L.	Area in Acres	Carrying Capacity	Total Stock S.U.Y.L.
1	1,035,540	34,221	32,286						
2	795,356	18,048	21,426				299,620	2,458	2,287
3	1,759,336	47,988	37,358						
4	901,167	24,210	32,127						
5	812,200	27,368	18,720						
6[2]	499,248	17,863							
7	991,649	52,936	44,821						
8	992,239	22,847	27,846				458,357	7,131	6,538
9	607,373	14,959	20,088	16,684	753	1,133	372,219	5,326	7,214
10	794,484	33,717	29,956						
11	417,235	16,541	14,382	17,004	720				
12	205,503	6,300	8,931	1,009,664	44,126	38,938	119,787	1,959	8,373
13				396,100	16,703	11,492			
14				637,101	25,321	38,066			
15				184,562	7,171	7,695			
17	1,161,888	74,895	56,530						
18	474,972	26,973	23,797	128,939	6,035	7,765			
Total	11,448,190	418,866	368,268	2,390,054	100,809	105,089	1,249,983	16,874	24,412
% Total Stocking	....	....	74%	....	....	21%	....	....	5%

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[1] From an old table of statistics. Acreages of Districts vary from present figures, but proportionate portions of Reservation in the several States are approximately accurate.

[2] District 6—Hopi.

TOTAL NAVAJO-OWNED STOCK ON RESERVATION — COMPARATIVE BY YEAR AND DISTRICT: NUMBER AND PERCENTAGE SHEEP UNITS OVER OR UNDER CARRYING CAPACITY — 1951-1955

		1955(1)		1954		1953		1952		1951		1950	
Dist. No.	Carry. Cap.	Range Use vs Car. Cap.	% Ov/Und Car. Cap.	Range Use vs Car. Cap.	% Ov/Und Car. Cap.	Range Use vs Car. Cap.	Car. Cap. % Ov/Und	Range Use vs Car. Cap.	% Ov/Und Car. Cap.	Range Use vs Car. Cap.	% Ov/Und Car. Cap.	Range Use vs Car. Cap.	% Ov/Und Car. Cap.
1	34,221	— 1,935	— 6%	— 2,672	— 8%	— 3,946	—12%	— 7,164	—21%	— 8,545	—25%	— 8,165	—24%
2	20,506	+ 3,207	+16%	— 757	— 4%	— 1,640	— 8%	— 2,499	—12%	— 2,278	—11%	— 3,870	—19%
3	47,288	— 9,930	—21%	—11,380	—24%	—10,956	—23%	—13,157	—28%	—10,387	—22%	—12,458	—26%
4	23,372	+ 8,755	+37%	+17,110	+73%	+12,995	+55%	+12,092	+52%	+ 9,628	+41%	+ 9,679	+41%
5	26,351	— 7,631	—29%	— 7,413	—28%	— 8,201	—31%	— 8,660	—33%	— 7,783	—30%	— 7,074	—27%
7	49,727	— 4,906	—10%	— 8,995	—18%	—12,086	—24%	—12,666	—25%	—12,899	—26%	—11,622	—23%
8	29,978	+ 4,406	+15%	+ 170	+ 1%	— 1,226	— 4%	— 2,796	— 9%	— 3,119	—10%	— 3,225	—11%
9	21,108	+ 7,417	+35%	+ 5,721	+27%	+ 2,904	+14%	+ 1,894	+ 9%	+ 3,898	+18%	+ 4,951	+23%
10	33,717	— 3,761	—11%	— 1,245	— 4%	— 5,558	—16%	— 6,124	—18%	— 6,310	—19%	— 4,075	—12%
11	17,261	— 2,879	—17%	— 2,833	—16%	— 4,365	—25%	— 4,913	—28%	— 5,207	—30%	— 3,502	—20%
12	52,385	+ 3,857	+ 7%	— 1,128	— 2%	— 3,403	— 6%	— 5,219	—10%	— 1,679	— 3%	+ 471	+ 1%
13	16,703	— 5,211	—31%	— 6,654	—40%	— 6,722	—40%	— 6,907	—41%	— 6,342	—38%	— 4,710	—28%
14	25,321	+11,573	+46%	+11,848	+47%	+ 7,076	+28%	+ 3,070	+12%	+ 5,669	+22%	+ 5,433	+21%
15	7,171	— 765	—11%	— 904	—13%	— 2,030	—28%	— 2,030	—28%	— 74	— 1%	— 74	— 1%
16 & 19	92,395	...	..	...	..	...	..	...	..	...	..	...	..
17	74,895	—15,402	—21%	—16,290	—22%	—17,315	—23%	—16,723	—22%	—15,152	—20%	—12,773	—17%
18	33,008	— 5,506	—17%	— 6,647	—20%	— 6,733	—20%	— 7,137	—22%	— 6,122	—19%	— 4,945	—15%
Totals	512,922	—18,711	— 4%	—32,069	— 6%	—61,206	—12%	—78,939	—15%	—100,081	—20%	—55,959	—11%

(1) Figures for 1955 based on voluntary livestock count.

THE NAVAJO TIMBER RESOURCE
1955

A. MERCHANTABLE VIRGIN TIMBER	ACREAGE	VOLUME FT. B.M.
Ponderosa Pine		1,931,069,250
Douglas Fir		42,112,751
Spruce		3,327,548
White Fir		611,301
TOTAL	439.024	1,977,120,850
Average vol./acre (Ponderosa)		4,453 ft. B.M.
Average vol./acre (all species)		4,533 ft. B.M.

B. UNMERCHANTABLE (INACCESSIBLE)	ACREAGE	VOLUME FT. B.M.
Navajo Mountain:		
Ponderosa Pine	10,454	25 Million
Spruce	4,500	12 Million
Defiance Plateau & Chuska Range:		
All species	284,200	60 Million
TOTAL	299,154	97 Million

C. CUT-OVER	ACREAGE	RESIDUAL VOL. FT. B.M.
Ponderosa Pine	56,664	205,250,810
Cut to Dec. 31, 1952		139,105,810

PRODUCTION STATISTICS—NAVAJO TRIBAL SAWMILL ENTERPRISE

	ANNUAL LOG PRODUCTION		ANNUAL LUMBER SALES		
YEAR	Net Scale M Ft.	Stumpage Value[1]	Volume M Ft.	Value	TOTAL WAGES PAID
1951	10,946	$114,386	14,807	$1,159,621	$555,799
1952	15,143	158,242	14,394	1,132,861	562,100
1953	12,452	150,018	15,468	1,114,859	501,223
1954	13,940	139,245	17,226	932,892	514,340
1955	17,815	203,677	17,207	1,338,414	587,696

[1] Average weighted stumpage price per M feet BM July 1, 1950 through December 31, 1955 = $11.79.

INCOME — RESERVATION — RESOURCES

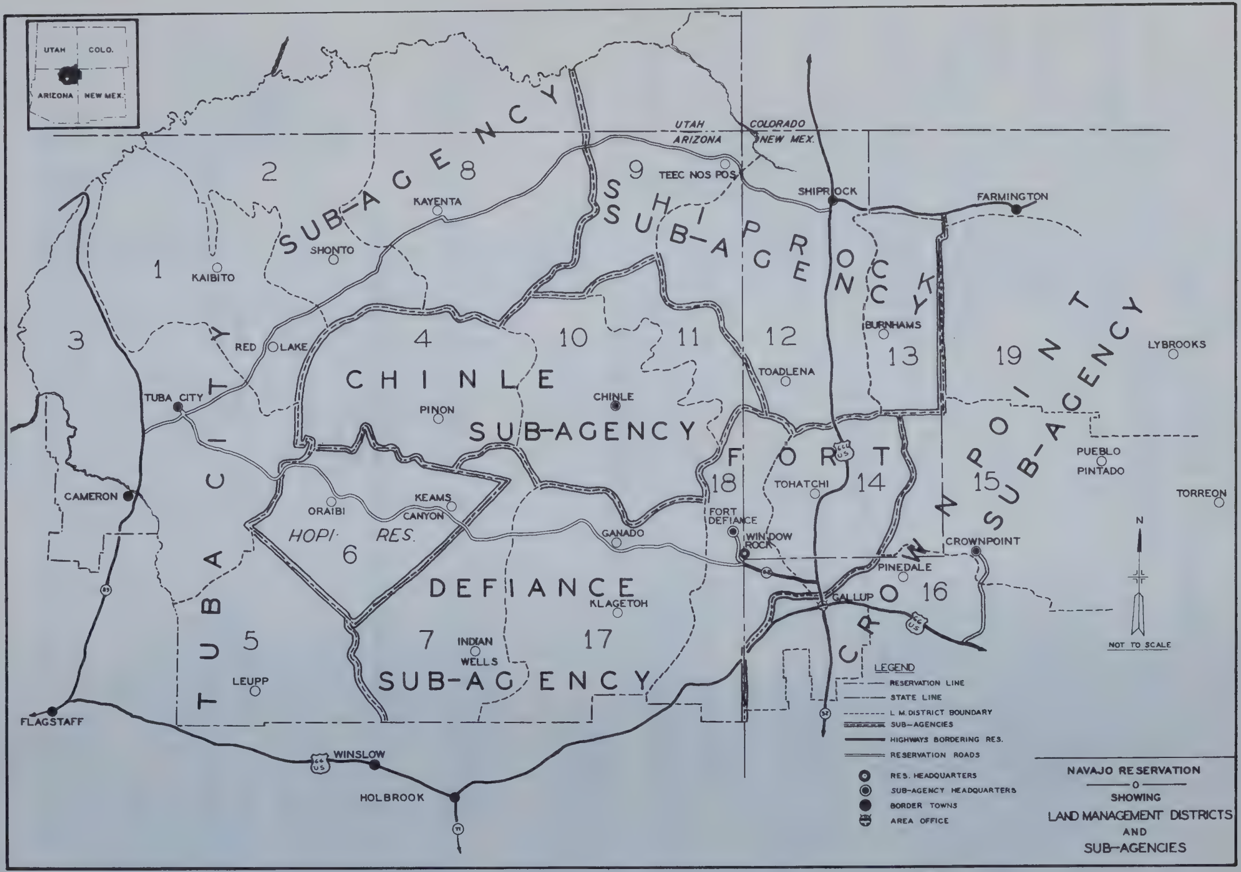
(Period July 1, 1954-June 30, 1955)

OIL AND GAS LEASES	Tribal Land	Allotted Land
Bonuses from Sale of Oil & Gas Leases	$ 513,306.05	$ ......
Annual Rentals from Existing Leases	978,791.50	89,797.50
Royalties on Production of Oil	49,964.53	......
Royalties on Production of Gas	......	8,830.57
Total for Fiscal Year 1955	$ 1,544,062.08	$ 98,628.07
Total income since first Production (1923-1955)	$18,439,312.89	$377,200.48
MINING LEASES		
Production Royalties (Vanadium-Uranium)	$ 624,786.70	$ 17,448.70
Rentals on Vanadium-Uranium Leases	26,906.70	3,845.78
Production Royalties Indian Coal Mines	1,408.93	......
Sale of Sand and Gravel	2,535.99	1,410.90
Total for Fiscal Year 1955	$ 655,638.32	$ 22,705.38
Total Income (Vanadium-Uranium Leases since First Production (1942-1955)	$ 2,396,500.64	$100,492.19
MISCELLANEOUS INCOME		
Millsite Leases	$ 3,222.19	$ ......
Housing Site Leases	100.00	......
Rights-of-way Payments	5,038.52	816.00
Total—Miscellaneous Income	$ 8,360,71	$ 816.00
GRAND TOTAL FISCAL YEAR 1955	$ 2,208.061.11	$122,149.45

THE NAVAJO SUBAGENCIES — STATISTICAL

1955

Subagency Headquarters	Districts Included	Navajo Popul. Est. 1954	Land Area	Number Schools	Enroll.	Number Subagency Employees		
						Res.	C. S.	Op.
Tuba City	1, 2, 3, 5, 8	14,849	6,110,297	17	1,837	25	250	24
Shiprock	9, 12, 13	13,372	2,727,330	15	2,025	31	340	47
Crownpoint	15, 16, 19	15,813	1,235,562	22	2,050	19	288	26
Chinle	4, 10, 11	12,418	2,106,856	19	1,666	23	211	19
Fort Defiance	7, 14, 17, 18	21,582	3,327,988	21	2,259	23	289	41
Totals	18	78,034	15,508,033	94	9,837	121	1,378	157



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TORREON
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STATE LINE
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RESERVATION ROADS
RES. HEADQUARTERS
SUB-AGENCY HEADQUARTERS
BORDER TOWNS
AREA OFFICE

NAVAJO RESERVATION
—o—
SHOWING
LAND MANAGEMENT DISTRICTS
AND
SUB-AGENCIES

THE NAVAJO TRIBAL ORGANIZATION

For a number of years the Bureau of Indian Affairs has maintained in effect a policy aimed at increasing the responsibility and self-determination of Indian Tribes in the control of their internal affairs. The Indian Reorganization Act, adopted by the 73rd Congress in 1934, was a major step in that direction and, in subsequent years, the Bureau has steadily encouraged Tribes to assume responsibilities formerly carried for them by the Bureau.

The growth of democratic Tribal government among the Navajo in the last decade has been paralleled by the development of a Tribal business office and by the entry of the Tribe into active participation, financial and otherwise, in the management of its affairs, the provision of community services, the protection of Reservation resources, and over-all planning.

The fiscal year 1956 Tribal Budget reflects the growth and magnitude of Tribal participation. With the budgeting of $378,080 for law enforcement in 1956, the Tribe has virtually assumed total financial responsibility for that service with an appropriation more than 7 tmes that of the Federal Government for the same purpose. In addition the Tribe provided $63,967 for the payment of the judges in the Courts of Indian Offenses, more than $80,000 for the maintenance of a legal staff to provide counsel and guidance in business and other operations, and $2,484 to defray the expenses of a Council Committee on Law and Order.

Administrative expenses covering operation of the Tribal Government required the budgeting of $314,607 in 1956, and $78,524 was required to meet the expenses of the District Grazing Committees. The latter have assumed a good share of the responsibility, formerly carried by the Bureau, for the management of the Reservation grazing resource. To expedite and regulate the exploitation of Reservation mineral resources in the best interest of the Tribe, $58,150 was appropriated for the maintenance of a Tribal Engineering and Mining Office. A total of $69,251 was provided for the protection of timber resources, and $70,000 for range conservation under the PMA program. To resolve problems involving land use, boundary disputes and the like, the Council has established a section in the Tribal organization entitled Land Use and Surveys, financed by a budgeted amount of $51,600. For the maintenance of water wells, $40,000 was provided, and an additional $250,000 was appropriated for well drilling, bringing to $1,000,000 the amount so far invested by the Tribe in Reservation water development in the past 4 years.

As the industrialization program moves ahead the Tribe will no doubt expand its organization further to assume a share of responsibility commensurate with its present financial participation in the form of a $300,000 budget amendment adopted in January, 1956, for industrial development purposes.

The 1956 Tribal Budget is summarized herewith below to show the scope and extent of Tribal participation in the current fiscal year.

NAVAJO TRIBAL BUDGET
FISCAL YEAR 1956
Revised to 1-31-56

ADMINISTRATION

A—General Council	$ 118,602
B—Advisory committee	85,430
C—Offices and general office	94,990
D—Committees	5,820
E—Insurance and taxes	15,000
F—Records management	25,965
Total	$ 345,807

LAW AND ORDER

A—Committees	$ 2,484
B—Law enforcement	378,080
C—Judiciary	63,967
D—Legal counsel	80,278
Total	$ 524,809

COMMUNITY SERVICES

A—Committees	$ 5,976
B—Chapters & district council	175,002
C—Welfare (1)	646,845
D—Social Services	9,280
E—Education-scholarships	100,000
F—Fair and band	24,400
G—Grazing	78,524
Total	$1,040,026

RESOURCES

A—Committees	$ 55,344
B—Audit, finance and trading	45,434
C—Industrial development	300,000
D—Credit	15,704
E—Engineering and mining	58,150
F—Water well maintenance	40,000
G—Realty	30,010
H—Forestry	69,251
I—Business Management	134,150
J—Construction and maintenance	22,162
K—Extension	27,750
L—Range Conservation	70,000
M—Land use and surveys	75,600
Total	$ 933,555

CAPITAL EXPENDITURES

A—Hospital dormitory	$ 20,000
B—Water wells	250,000
C—Land purchase	254,136
Total	$ 524,136

GRAND TOTAL	$3,368,333

(1) Of this amount, $430,000 was designated for use in purchasing clothing for Navajo school children.

THE NAVAJO TRIBE

Window Rock, Arizona

NAVAJO TRIBAL OFFICERS

TRIBAL CHAIRMAN	
Chairman, Navajo Tribal Council	Paul Jones
Vice-Chairman, Navajo Tribal Council	Scott Preston
TRIBAL SECRETARY-TREASURER	
Secretary-Treasurer	J. Maurice McCabe
Administrative Assistant	Manuel Begay
TRIBAL GENERAL BUSINESS MANAGER	Grover F. Elmore
TRIBAL ACCOUNTING-COMPTROLLER	I. Howard Wardlaw
TRIBAL LAND USE AND SURVEY	
Supervisor	R. F. Van Valkenburg
Administrative Assistant	J. Lee Correll
TRIBAL LEGAL OFFICES	
General Counsel (Office in Washington, D.C.)	Norman M. Littell
Assistant General Counsel (Washington, D.C.)	Charles J. Alexander
Assistant General Counsel	Laurence A. Davis
Associate Counsel	Lawrence C. Huerta
Legal Advisor	Mark C. Reno
TRIBAL MAINTENANCE	
Maintenance Foreman	A. R. Wren
TRIBAL MINING—MINING ENGINEER	Kenneth N. Garard
TRIBAL REALTY ASSISTANT	Thomas Lynch
TRIBAL RECORDS	
Record Supervisor	Angeline Whipple
Recording Secretary	Marjorie Allan
Steno-type Reporter	Joseph Williams
TRIBAL TRADING—SUPERVISOR	I. Howard Wardlaw
TRIBAL ENTERPRISES	
Arts and Crafts Guild	Sam Harrison
Navajo Tribal Sawmill	
Accounting Offices	James Ogal
Project Superintendent	Frank Carter
Sales Manager	Jessie Walker
Window Rock Lodge	Mr. and Mrs. O. H. McGlothlin
Nataani Nez Lodge (Shiprock)	Mrs. Cossette Davies

OFFICERS OF THE NAVAJO TRIBAL COUNCIL

1923-1955 ([1])

DATES	CHAIRMAN	VICE-CHAIRMAN
1923-28	Chee Dodge	None
1928-32	Deshna Chischillige	Maxwell Yazzie
1932-36	Thomas Dodge	Marcus Kanuho
1937-38	Henry Taliman	Roy Kinsel
1938-42	Jacob C. Morgan	Howard Gorman
1942-46	Chee Dodge	Sam Ahkeah
1946-50	Sam Ahkeah	(Chee Dodge[2]) Zhealy Tso
1951-54	Sam Arkeah	(John Claw[3]) Adolph Maloney
1955-Present	Paul Jones	Scott Preston

[1] Compiled by Albert Sandoval, Sr.

[2] Chee Dodge was elected by popular vote, but died before taking office; Zhealy Tso was elected by the Tribal Council to serve the unexpired term.

[3] John Claw resigned the office to which he was elected on August 15, 1952, and Adolph Maloney was elected by the Tribal Council to serve the unexpired term.

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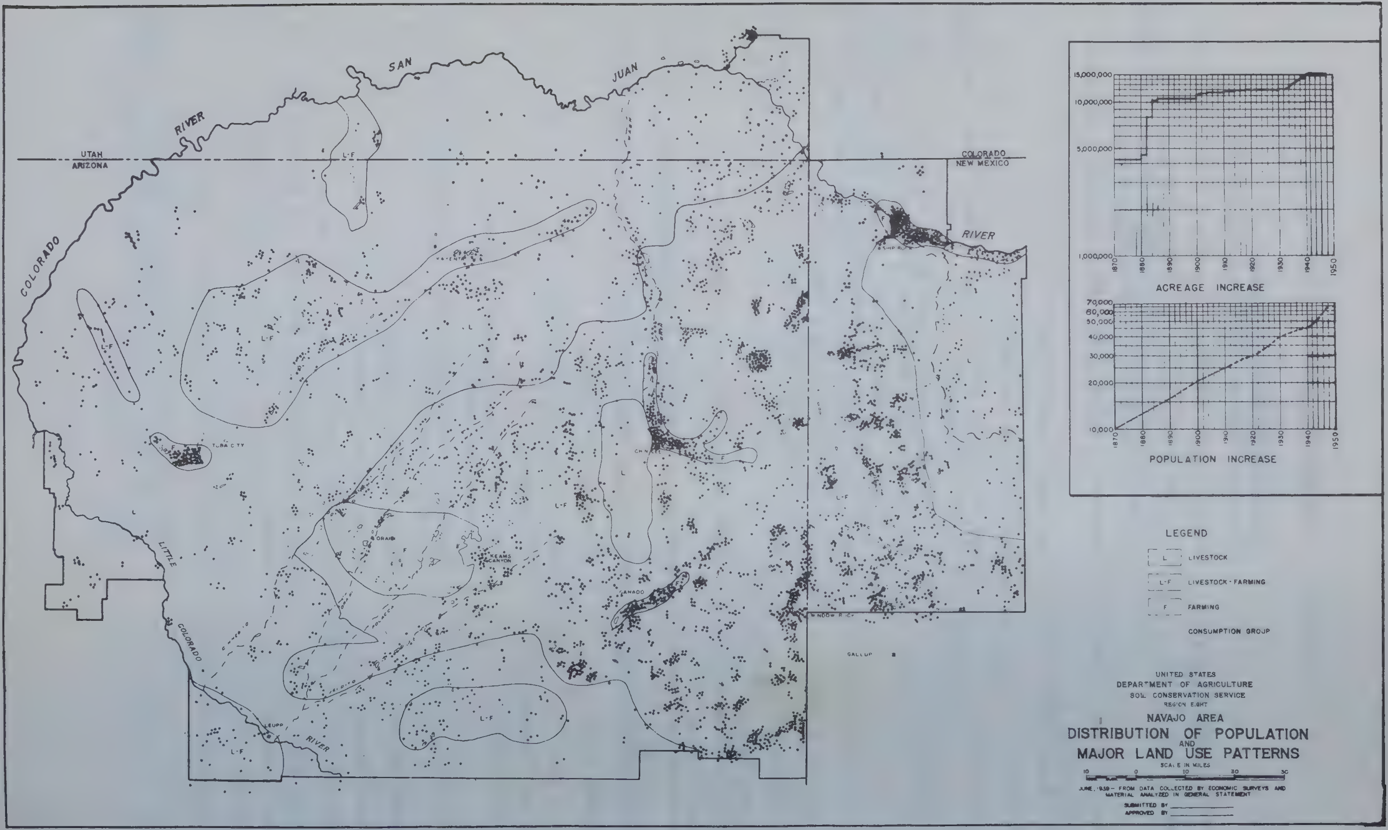
SAN JUAN RIVER
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UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
REGION EIGHT

NAVAJO AREA
DISTRIBUTION OF POPULATION AND MAJOR LAND USE PATTERNS

JUNE, 1939 – FROM DATA COLLECTED BY ECONOMIC SURVEYS AND MATERIAL ANALYZED IN GENERAL STATEMENT

SUBMITTED BY ______________

APPROVED BY ______________

Hopi land—the village of Bacabi—situated within the surrounding Navajo country.

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GPO 840863

NAVAJO AGENCY STAFF

Agency Headquarters

General Superintendent	G. Warren Spaulding
Assistant to the General Superintendent	Robert W. Young
Liaison Representative (Interpreter)	Albert Sandoval, Sr.
Assistant General Superintendent (Community Ser.)	Charles E. Morelock
Chief, Branch of Education	Henry A. Wall
Chief, Branch of Law and Order	Patrick H. Nelson
Chief, Branch of Relocation	Robert M. Cullum
Chief, Branch of Welfare	Beatrice L. Erickson
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Chief, Branch of Realty	Marvin D. Long
Chief, Branch of Roads	Arthur M. Sandridge
Acting Chief, Branch of Forestry	Reino R. Sarlin
Chief, Branch of Land Operations	Melvin Helander
Assistant General Superintendent (Operations)	Paul W. Hand
Chief, Branch of Credit	Edward H. Tixier
Chief, Branch of MOBU-PH & L	Vacant
Chief, Branch of Communications	C. P. Clarke
Chief, Branch of Property & Supply	Theodore C. Duffield
Subagency Supt., Tuba City Subagency	M. A. South
Administrative Officer	Ralph A. Ward
Subagency Supt., Chinle Subagency	Fred G. Maxwell
Administrative Officer	Evelyn F. Broadhead
Subagency Supt., Ft. Defiance Subagency	Rudolph Zweifel
Administrative Officer	Morey C. Cope
Subagency Supt., Shiprock Subagency	Elvin G. Jonas
Administrative Officer	Chester G. Wilson
Subagency Supt., Crownpoint Subagency	Arthur B. Colliflower
Administrative Officer	Paul J. Corwin

The

57

Navajo Yearbook

Published Annually as a Manual and Program Planning Guide

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Report No. VI

Fiscal Year 1957

THE
NAVAJO YEARBOOK

Compiled and Edited, with Articles
By
Robert W. Young
Assistant to the General Superintendent

Navajo Agency
Window Rock, Arizona

1957

DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

BUREAU OF INDIAN AFFAIRS
Glenn L. Emmons, *Commissioner*

GALLUP AREA OFFICE
W. Wade Head, *Area Director*

NAVAJO AGENCY
G. Warren Spaulding, *Gen'l Supt.*

1957

PREFACE

As the present edition of the Yearbook goes to press we have entered, in fiscal year 1958, the eighth year of the Long Range Program authorized by the Congress in 1950 for the rehabilitation of the Navajo and Hopi Tribes. Previous editions have reported on the annual progress achieved toward the several goals defined in the Long Range Act, and especially toward fulfillment of primary objectives in the fields of education, health and resource development.

In the conviction that a progress report was not alone sufficient to meet the over-all need for effective communication, indoctrination of new personnel, program evaluation and planning with relation to an ever-changing problem we began, three years ago, the compilation of a handbook of the Navajo. Agency files and other records were searched and a fund of valuable information was accumulated and consolidated as an appendix to the Yearbook. Against the background of this fund of information we have made a continuing effort to improve our techniques, maintain current our definitions of problems and objectives, measure our progress, and readjust our programs to meet changing requirements.

The Long Range Program has remained our blueprint for action since its inception with procedures modified and adapted from time to time to conform to changing conditions. As a generalization, the primary objectives of the Navajo-Hopi Long Range Program will remain our guidelines long after the act itself expires, and until the services of the Bureau of Indian Affairs are no longer required by the Navajo people. In fact, those primary objectives were set forth as a matter of basic Bureau policy directed toward all Indian groups in Commissioner Emmon's memorandum of April 12, 1956, entitled "Programming for Indian Social and Economic Improvement," a summary of which is provided in the appendix of this volume.

However, as the history of the Navajo Tribe over the course of the past decade so poignantly demonstrates, problems and conditions are in constant flux. We can develop long range programs predicated on the attainment of broad objectives in health, education and economic development with the full expectation that the framework of those programs will remain intact for many years, but we cannot, at any given period, elaborate a set of timeless procedures for the implementation of those programs. Periodic modification to meet changed conditions in future years will remain a prime requirement of effective planning. The day is not likely to come in the immediate future when we can sit back and rest on our laurels, carrying out the final phases of a program that requires no further readjustment. The elaboration of immediate and projected program planning to fit one phase in the attainment of our objectives will only place us on the threshold of a new phase in which new requirements will emerge from evaluation of past accomplishments and new adjustments of short and long term planning, based on that evaluation, will be clearly indicated.

Let us keep these self-evident facts in mind, equip ourselves with necessary information, continuously strive for the improvement of present techniques and plan effectively for the years that lie ahead. If we of the Navajo Agency, in collaboration with the Navajo Tribe, can maintain our momentum in the future as we have in the immediate past, the road to realization of our ultimate goal of equal opportunity and parity for the Navajo with their fellow American citizens cannot be too much longer.

We believe that our Yearbook offers a sound basis for program evaluation and effective planning, closely attuned to the spirit and purpose of the Commissioner's Memorandum of April 12, 1956, and to the desires and aspirations of the Navajo Tribe.

G. Warren Spaulding
General Superintendent
Navajo Agency

FOREWORD

The present volume is the sixth in a series which began as an annual report of progress achieved under the 10-year program for the rehabilitation of the Navajo and Hopi tribes. Since 1954 the Yearbook has been published, not only as a program progress report, but as a handbook of the Navajo, including an appendix of descriptive and statistical information relating to the Navajo People, the Reservation, health and education, census, economy, and other subjects.

The appendix of general information has grown from year to year as additional research has been carried out and as additional information has been contributed by the Public Health Service, the Gallup Area Office, Navajo Agency Branches and others.

For the 1954 edition, the Editor developed sketches describing the physiography and climate of the Reservation, Navajo social organization, and the growth of tribal government. In the 1955 edition, the Editor added a sketch describing the growth of the Bureau of Indian Affairs and the development of Indian policy since colonial times, utilizing Felix Cohen's comprehensive **Handbook of Indian Law** for source material to about 1940, an excellent file of Bureau policy directives assembled by Mr. G. Warren Spaulding for the period 1940-1953, and various other documents on file at the Navajo Agency for recent as well as earlier eras. This sketch has been brought up to date in the present volume, and in future editions it will be continuously revised to include additional major policy directives affecting Bureau programs as set forth by the Congress, the Secretary of the Interior, or the Commissioner of Indian Affairs during the course of the report year.

The present volume includes a sketch of Navajo religion, Navajo ethics and allied subjects, prepared by the Editor with the generous assistance of Dr. Clyde Kluckhohn. The latter provided valuable guidance based on his own encyclopedic knowledge of the subject, as well as published source material not available at Navajo Agency. In addition, Frs. Burcard Fisher and Elmer Von Hagel of St. Michaels Franciscan Monastery, Fr. David Given of the Good Shepherd Episcopal Mission, and Dr. Joseph A. Poncell of Ganado Presbyterian Mission reviewed the draft and provided their valuable comment. To a large extent the sketch represents a review of existing literature on the subjects involved, with an attempt to hazard a "construction" of religious, ethical and other principles to help make this confusing subject more understandable to non-Indians in the employ of the Federal Government and to others living and working among the Navajo people. The "construction" provided does not presume to supersede any and all other interpretations of the subject, but is merely offered as a logical construction based on published research, and on Navajo legend. Many other equally valid but varied interpretations of the same source material are no doubt possible.

A sketch of the Navajo language has been added this year to provide basic information against which school teachers, personnel dependent upon interpreters and others can understand some of the problems involved in language learning and cross cultural communication, as well as to provide some idea of the structure and phonology of Navajo and of its linguistic relationship to other Indian languages.

The sketch of Navajo history has been expanded in the present volume, partly on the basis of a careful review of the more important actions of the Navajo Tribal Council over the course of the past 20 years, partly on the basis of other source material available in the Agency files, and very largely on the basis of material generously provided by Mr. Carl Chelf who made available to the Editor an old travel book from his personal library containing an excellent description of the Navajo during the period immediately following the return of the Tribe from exile in Fort Sumner.

The Editor is especially grateful to Dr. Henry Kassel, Director of the Albuquerque Area Public Health Service and the staff of the Statistical Analysis Section there, as well as to personnel in the Washington Office of The U.S. Public Health Service (Division of Indian Health), for their cooperation and generosity in providing a full report on the Navajo Health Program, along with statistics reflecting morbidity and mortality. Likewise, Drs. Walsh McDermott, Kurt Deuschle and John Adair, representing the New York Hospital—Cornell University Medical College Team, have provided an excellent report of the health project operated under their supervision at the Manyfarms Clinic.

The Navajo Yearbook owes a debt of gratitude to the persons mentioned above and to many others whose published works, advice and guidance have been of inestimable value. Personnel of the Navajo Agency, the Gallup Area, the Phoenix Area, and the Colorado River Agency have contributed most of the information relating to program status and progress; the State Departments of Public Welfare, the State Employment Services and the Raiload Retirement Board have been generous in their response to requests for nformation. Finally, Branch Chiefs and other staff members in the Bureau's Central Office in Washington, D. C., painstakingly reviewed the various ections of the report and provided their valuable comment. The Yearbook s especially indebted to Mr. M. M. Tozier, the Bureau's Information Officer n Washington, D. C., who not only expedited its review by Branch personnel here, but who carefully read every page of the manuscript and provided his aluable comment and constructive criticism.

Robert W. Young, Editor

INTRODUCTION

THE NAVAJO-HOPI LONG RANGE REHABILITATION PROGRAM
PUBLIC LAW 474 — 81st CONGRESS

In 1922, a campaign was started for the development and adoption of a five-year program adapted to the individual requirements of each Indian reservation. Through resource development and better utilization of government activities, coupled with closer tribal participation, it was hoped that self-supporting economies might be achieved for all Indians.

For a variety of historical and other reasons the ensuing 5 years did not accomplish the realization of this goal. However, the motivations that found expression in the 1922 campaign carried forward through succeeding years, and signaled the beginning of a radical change in Federal Indian policy culminating in the programs, objectives, and general approach that have characterized Indian Affairs in recent years.

In 1932, each Superintendent in charge of the five Navajo Agencies submitted a report to the Subcommittee of the Committee on Indian Affairs of the United States Senate, for inclusion in Part 18 of a document entitled "Survey of Conditions of the Indians in the United States," summarizing conditions in their respective jurisdictons, and makng positive recommendations for the development of needed educational and health services or facilities, as well as for resource development, road construction and other improvements. The ultimate goal of the program, as expressed by Secretary of the Interior Wilbur was "to increase the facilities for the care and development of the Indian for a short period of time with the general plan in mind of eliminating the Indian Bureau within a period of say twenty-five years."

Following World War II the inadequacy of Navajo Reservation resources and the cessation of wartime income resulted in an economic crisis, the probable development of which had been recognized as early as 1942 by the Navajo Agency. The then Superintendent, Mr. J. M. Stewart, and Director of Navajo Education, Dr. George A. Boyce, initiated a series of "Post-war Planning Conferences" for the development of positive planning and recommendations, and published the latter in 1944 under the title of "A projected Program for Meeting Social and Economic Needs of the Navajo People."

During the period of 1946-50 a number of detailed studies were made of the then critical "Navajo situation," including the "Navajo Report," published in 1946 by a Coordinating Committee composed of organizations interested in Indian Affairs; a "Report on the Navajo Indian Situation," prepared by the Navajo Agency in 1947; "An Industrial Program for the Navajo Indian Reservation," by Max Drefkoff, Industrial Consultant, 1948; and "The People, A Study of The Navajos," by Dr. George I. Sanchez, in

1948, containing a recommended program for development of necessary education facilities. The studies along with news articles, pamphlets, etc., culminated in the report of the Honorable J. A. Krug, then Secretary of the Interior, entitled "The Navajo—A Long Range Program for Navajo Rehabilitation." The so-called "Krug Report" became the blueprint for legislative action in the form of Public Law 474, 81st Congress, signed into law by the President on April 19, 1950.

The Act in reference authorized the appropriation of $88,570,000 over a ten year period for the purpose of "promoting the rehabilitation of the Navajo and Hopi Tribes of Indians and a better utilization of the resources of the Navajo and Hopi Indion Reservations, and for other purposes," and committed the Congress to a long range approach to the problems of social and economic rehabilitation of both tribes.

The total was authorized in 14 categories, with specified amounts of money to be expended for the accomplishment of stated objectives. Appropriations to date pursuant to the authorization established by Public Law 474, 81st Congress, are summarized as follows:

APPROPRIATED

Authorized	1952	1953	1954	1955	1956	1957	Total
$88,570,000	6,675,100	9,215,800	9,773,810	8,344,290	8,660,810	4,604,545	55,919,875
School Construction							
1. 25,000,000	3,073,000	3,375,000	6,171,000	4,300,000	3,287,000	326,495	24,527,295
Hospital and Health Facilities							
2. 4,750,000	340,000	1,395,000	235,000	none	2,037,700[1]	none	4,750,000
Agency, Institutional & Domestic Water Supply							
3. 2,500,000	136,000	125,000	100,000	125,000	none	50,000	1,078,200
Irrigation Projects							
4. 9,000,000	277,300	495,000	711,000	645,000	636,500	550,000	3,882,275
Roads and Trails							
5. 20,000,000	858,000	1,430,000	1,330,000	2,287,000	1,540,000	2,733,000	11,138,000
Soil & Moisture Conservation, Range Improvement							
6. 10,000.000	538,300	570,000	648,500	519,780	686,850	707,540	3,970,970
Development of Industrial and Business Enterprises							
7. 1,000,000	52,000	52,000	52,000	10,000	10,000	10,000	238,000
Resettlement on Colorado River Irrigation Project							
8. 5,750,000	387,500	442,000	425,000	440,000	445,250	210,000	3,149,750
Surveys & Studies of Timber, Coal, Minerals							
9. 500,000	125,000	125,000	101,310	17,510	17,510	17,510	419,385
Off-Reservation Placement and Relocation							
10. 3,500,000	none	none	none	none	none	none	194,600
Telephone & Radio Communication Systems							
11. 250,000	88,000	56,800	none	none	none	none	250,000
Revolving Loan Fund							
12. 5,000,000	800,000	1,000,000	none	none	none	none	1,800,000
Housing & Necessary Facilities & Equipment							
13. 820,000	none	none	none	none	none	none	26,300
Common Service Facilities							
14. 500,000	none	150,000	none	none	none	none	495,100

(1) This amount was appropriated under the item "Construction of Indian Health Faciliites, Public Health Services" (68 Stat. 674, 675). See previous editions of Yearbook for 1951 appropriations.

I. EDUCATION

At the time plans were formulated for the Navajo-Hopi Long Range Program, the estimated school age population was placed at 24,000 children. At the same time (1947-48), school space was available for only 7,500 children in schools located within the Navajo jurisdiction, including 1,700 seats in mission and public schools. In addition, about 1,700 Navajo children were enrolled in schools located outside the Navajo jurisdiction, including Keams Canyon, (Hopi) Ignacio (Ute), Albuquerque and Sherman Institute. For an estimated 15,000 children there was no opportunity to obtain an education even though they might wish to do so. The problem was serious. A large, illiterate, non-English speaking population was faced with the necessity to diversify its economy and find new bases of livelihood independently of Reservaton resources without the tools and techniques prerequisite to such a changed way of life. At the time the Krug report was written (1947), over 66% of the Navajo people had no schooling whatsoever, and the median number of school years for the Navajo population was less than one. This figure contrasted with a median of 5.7 years for the total Indian population of the United States, and 8.4 years for the general population of the nation. How could the Navajo people be equipped to compete with the rest of their fellow citizens in the face of such a great handicap? This was the problem confronting the Bureau of Indian Affairs, the Department of the Interior and the Navajo Tribe a decade ago.

Long Range planning extended not only to the provision of educational facilities, but also to resource development and to such expedients as off-Reservation placement and relocation to provide a livelihood to Navajos possessing no resources on the Reservation. It was assumed that, as the program developed, there would be population shifts in Reservation areas which would cause variations in the numbers of school age children for whom school seats were required in different portions of the Reservation. At the same time, Long Range planning emphasized the need to provide school facilities **on the Reservation** for all children in the first 6 grades and, in terms of recommended school construction, Long Range planning envisioned the earliest possible provision of school seats for only 55% of the school age population. Those who planned the program recognized the uncertainty of uture needs, and recommended that the requirements be restudied at two or three year intervals. Generally speaking, the major emphasis was placed on he provision of educational opportunities **on** the Reservation, both elementary and high school.

Accordingly, the Long Range Act provided for the appropriation of 25,000,000 over a 10-year period for construction of necessary school facilities. In many instances, funds appropriated for this purpose were designated or the conversion of unusable day school facilities at Reservation locations, to a boarding school basis. Under the conditions of Navajo Reservation life, day school operations often proved unfeasible, and although the number of school seats might not be increased greatly in the course of conversion to a boarding basis, the enrollment and average daily attendance could be materially increased to thus make full use of available school space. The Long Range Program called for the remodeling, enlargement, replacement and/or conversion of 41 day schools, the repair and enlargement of 8 existing boarding schools, and construction of 5 new large boarding schools on the Reservation. The stated objectives of educational planning were to (1) provide school facilities on the Navajo and Hopi Reservations sufficient to offer educational opportunities **ultimately** to all school age children on a boarding or day basis as circumstances might require; (2) to provide for elementary and vocational education of Navajo children aged 12-18 years who had not previously attended school, or who were 3 or more years retarded; (3) to provide high school opportunities on and off the Reservation as required; and (4) to transfer responsibility for the education of Navajo (and Hopi) children to the public school system as rapidly as possible.

Between fiscal years 1951-54, inclusive, 15 school construction projects were completed, exclusive of the new school at Shiprock, and the Ramah Dormitory construction. In 1955 a new boarding school was built at Kayenta to increase capacity from about 40 day pupils to 535 (including 400 boarding pupils).

During the period 1951-54, inclusive, school enrollment increased from 13,480 in the 1951-52 school year to 16,110 in the 1953-54 school year. A year later, enrollment was increased to 23,671, and at the close of the 1956-57 school year enrollment of Navajos in all types of schools stood at 27,013. The rapid progress toward universal education for the Navajo during the period 1953-1957 reflects the expanding Navajo Emergency Education Program and the development of new school facilities on and off the Reservation.

The $25,000,000 authorized under the Long Range Program for construction of necessary schools and educational facilities has been appropriated, almost in toto, and the status of appropriations to June 30, 1957, is reflected below:

Fiscal Year	Long Range Allocations
1951-56, incl.	$24,200,800
1956	$ 326,495

It was pointed out in a preceding paragraph that, in the closing years of the 1940's when the Long Range Program was in the process of planning, it was intended to construct most of the needed educational facilities on the Reservation, and to defer planning for the total school age population until the effects of other aspects of the Long Range Program could be

SCHOOL CONSTRUCTION PROJECTS DURING F.Y. 1957 WITH STATUS OF COMPLETION

Project	Estimated Cost	Authorized Capacity 1956-57	Anticipated Capacity After Completion	Increase Enrollment	Anticipated Completion Date
1. Lukachukai School Expansion	$1,051,347	175	270	95	June-58
2. Seba Delkai School Expansion	578,512	96	128	32	Sept-58
3. Mariano Lake School—improvement (1)	4,716	120	120	0	Aug-57
4. Pinedale School Construction (2)	5,298	32	32	0	Aug-57
5. Borrego Pass	339.300	25	120	95	July-58
6. Round Rock School Expansion	222,000	50	150	100	Aug-57
7. Smoke Signal School Construction	73,340	—	30	30	Aug-57
8. Blue Gap School Construction	94,194	—	60	60	Aug-57
9. Low Mountain School conversion and expansion	299,289	75	120	45	Aug-57
10. Tachee School Expansion	34,784	25	50	25	Aug-57
11. White Cone School Conversion	67,141	75	90	15	Aug-57
12. Holbrook Dormitory Expansion	353,346	300	420	120	Aug-58
13. Richfield Dormitory Construction	396,100	120	120	0	Feb-58
14. Snowflake—Added Facilities	99,000	120	120	0	Jan-58
15. Aztec Dormitory—Added Facilities	63,000	120	120	0	Dec-57
16. Huerfano Dormitory Expansion	351,000	50	114	64	——
Total	$4,032,367	1383	2064	681	

(1) At Mariano Lake a classroom will be provided to replace makeshift classroom facilities.

(2) At Pinedale a classroom building will be provided to replace a structure which burned.

evaluated to determine the nature of future need. In 1947-1948 the Navajo Tribe was struggling to reestablish itself economically following the sudden cessation of wartime employment, and no one could foresee what the requirements of future years might be in terms of educational facilities on the Reservation. Certainly, no one could then foresee the rapid progress which the Tribe has made in adapting itself to changing conditions of life. The demand for universal educational opportunity increased with each passing year, and Tribal leaders viewed with alarm the rapidly increasing school age population and the slow rate of increase in school space. As the realization grew that, without education, a large segment of the Navajo population would continue to be obliged to eke out a subsistence livelihood on meager Reservation resources, or in menial labor, the policy of deferment of planning for universal education appeared more and more impractical.

Mr. Glenn L. Emmons shared the Navajo viewpoint with regard to the urgency for universal education and when, in 1953, he became Commissioner of Indian Affairs, he acted to provide immediate facilities for every Navajo child of school age. One of his first acts as Commissioner was the launching of the Navajo Emergency Educational Program, involving the maximum possible use of existing school facilities, the development of school dormitories in towns peripheral to the Reservation to permit Navajo children to attend public schools, the use of temporary school facilities—the so-called "Trailer Schools", and a reprogramming of available school construction funds to emphasize provision of every possible square foot of additional classroom space at the expense of non-essentials.

As a net result of the all out effort launched by Commissioner Emmons, Navajo school enrollment has been increased 67.6% in the short span of 4 school years.

Changed educational policy involved not only a decision to abandon the deferment of planning for universal education until some future date when permanent requirements would be more apparent, but the policy change also involved modification of the earlier emphasis on construction of school facilities on the Reservation. The new policy emphasized immediacy, and took advantage of the school opportunities available in the peripheral towns for Navajo children. The new approach not only sought to provide the educational opportunities required at present, but seeks to plan ahead to keep abreast of the expanding Navajo population and preclude the rise of another backlog of school age children for whom no school space is available.

Long Range planning in 1947-1948 was primarily concerned with the development of school space to serve the Navajo population through the sixth grade, but the new policy and planning pursuant to that policy does not limit its scope. The basic thinking of Commissioner Emmons and his staff was set forth in a policy document issued on May 26, 1955, in which the salient provisions are:

1. To attack the educational problems of Indians on all fronts and at all levels, from beginning grades through adult programs.

2. To plan educational programs closely adapted to the varying individual requirements of each Indian group.

With regard to the Navajo people specifically, the policy provided for:

1. Reservation school opportunities for Navajo children through age 12 (or through grade 6).

2. Public school opportunities for Navajo children through grades 7-12.

3. Continuation of the Special Navajo Program to provide an accelerated curriculum in Federal Off-Reservation Schools to serve the needs of Navajo children aged 13-18, who are 2 or more years retarded, as long as this program is required.

4. Provision, through State and other sources, of special educational opportunities for the handicapped.

5. Provision of emergency types of instruction to meet the needs of children and adults who cannot be reached through other educational media.

To accomplish the policy objectives outlined above, all available public school facilities must be utilized and new public school space must be developed wherever possible. With funds provided under Public Law 815, new public school facilities have recently been constructed at Tuba City, Ganado, Fort Defiance, Crownpoint and other Reservation locations, and public schools have been expanded in some of the peripheral towns to accommodate more Navajo children. Also, wherever local population will support a day school operation, temporary classroom facilities are provided. To accommodate the remaining children in the 6-12 year age group who cannot attend day facilities, it is intended to construct new Reservation boarding schools.

Navajo children aged 13-18 who are up to grade will attend public schools wherever such can be made available, and the Bureau of Indian Affairs will provide dormitories (except at existing public schools located on the Reservation or at Mission schools). The members of the age group who are retarded 2 or more grades will continue to attend Federal schools located outside the Reservation (e. g. Intermountain, Riverside, Chilocco, etc.).

The Bureau of Indian Affairs shares with the peripheral towns the financial burden posed by Navajo enrollment in the public schools, providing $1,000 per child up to the number of children such schools agree to take annually for a 20-year period. Thus if a public school agrees to enroll 120 children per year for 20 years, it is eligible to receive $120,000 with which to expand classroom space to accommodate the increased enrollment. In addition, the Bureau of Indian Affairs pays the full per capita cost of educating each Navajo child enrolled in a public school and residing outside the school district. Such payment is made on the basis of a contract with each town or school board, in turn based on a formal agreement between the respective school districts, the Bureau and the State Departments of Public Instruction.

With respect to school construction on the Reservation, educational policy provides for the conversion of trailer schools to permanent day schools when, over a 2-year period, the local population has proven sufficient to maintain a facility of two or more classrooms. In such cases the trailer facilities are moved to a new area or trial location.

Policy and planning look to the possibility of increasing available boarding school capacity on the Reservation to 12,000 through permanent construction progressing at a sufficiently rapid rate to keep abreast of population increase. However, beyond 12,000, it is recommended that further expansion on the Reservation be in the form of temporary or semi-permanent construction.

Looking to the increased number of junior and senior high school students expected a few years hence, the need is recognized for development of additional high school facilities outside the Reservation.

The new policy represents a shift in emphasis and method from the thinking of a decade past, and is aimed at the goal of equipping all Navajo and other Indian children with the educational tools they require to compete successfully with the rest of the population and take their place in national life on a par with other citizens. It recognizes the immediacy of the need for education, and has developed a number of effective means for meeting that need aside from provision of school facilities on the Reservation. At the same time, the new policy recognizes the fact that children, during their formative years, should have the benefits of parental care and guidance.

The Reservation Schools

The Reservation schools operated by the Federal Government fall into 4 categories, including **The Central Boarding Schools** (enrolling beginners through grade 4); the **Community Boarding Schools** (beginners through grade 3); the **Regular Day Schools** (beginners through grade 2); and the **Trailer Schools** (beginners through grade 1). Beyond the 4th grade children attend the public schools on the Reservation or in conjunction with the Town Dormitory Program, or attend schools located outside the Reservation. Space is not yet available on the Reservation to accommodate all children through grade 6.

A. **The Boarding Schools:** At the close of the 1956-57 school year, 6,935 Navajo children were enrolled at the 28 Central Boarding Schools, including some day students, while 1,416 children were enrolled in the 20 Community Boarding Schools, to a total of 8,351 in the 48 schools in reference. In addition, 357 pupils who lived in dormitories operated by two of the boarding schools attended public schools in the area.

Reservation schools introduce Navajo beginners to education, . . .

A process which may take them progressively to the bordertowns or to boarding schools located far from home.

B. **The Federal Day Schools:** Including the Sanatorium at Ft. Defiance, the Bureau operated 6 regular day schools during the school year ending June 1, 1957, enrolling a total of 349 pupils. These facilities are located at Cove, Iyanbito, Many Farms, Round Rock, Salina Springs, and the Sanatorium.

C. **The Trailer Schools:** These are temporary, movable facilities, usually comprising two or more house trailers serving as living quarters for the school staff, or as kitchen and bathroom for the children, and one or more quonsets used for classroom purposes. In the 1956-57 school year, 981 Navajo children attended the 28 trailer schools on a day basis, with enrollment ranging from 7-114 pupils.

D. **The Reservation Public Schools:** At the close of the 1956-57 school year it was estimated that at least 4,800 Navajo children were enrolled in public schools located at Bloomfield, Shiprock, Nava, Naschitti, Gallup, Thoreau and Crownpoint in New Mexico, and at Sanders, Fort Defiance, Ganado and Tuba City in Arizona. Most of these facilities were constructed, or at least expanded, with funds made available under Public Law 815 which provides for Federal subsidies to areas of Federal impact in the construction of needed schools. A new public school is planned for construction at Chinle and Kayenta, Arizona, and applications for similar schools at other Reservation locations are under consideration. Precise statistics regarding public school enrollment are not available but, exclusive of the peripheral dormitory operation, at least 6,000 Navajo children were enrolled at the schools listed above and at public schools elsewhere. Including the peripheral town dormitory operation, the number of Navajo public school students in the 1956-57 school year is placed at 8,300.

E. **The Peripheral Town Dormitory Program:** To achieve maximum use of all school facilities and school space available for Navajo children in connection with the Navajo Emergency Education Program, the Bureau of Indian Affairs, in 1954, began negotiations with towns lying peripherally to the Navajo Reservation to develop agreements and contractual arrangements for acceptance of specific numbers of Navajo children into the municipal public school systems. At Gallup, New Mexico, a school dormitory was constructed by private capital, while in other locations temporary, makeshift facilities including tourist motels and barracks were utilized initially to expedite the program. Aztec and Gallup, New Mexico, Holbrook, Winslow, Snowflake, Arizona, and Richfield, Utah were the first towns in which the Peripheral Town Dormitory Program was operated, and during the 1954-55 school year 1,030 Navajo children were enrolled in this aspect of the school operation.

Highly successful, thanks to the sympathy and cooperation of the townspeople and the unstinting efforts of many devoted teachers and other employees in the Public Schools and in the Bureau Branch of Education, this program has become a well established, permanent aspect of Navajo education. In Holbrook and Winslow new, modern school dormitory facilities have been completed by the Bureau of Indian Affairs, and new construction will be completed during the 1957-58 school year to replace temporary facilities presently in use at Richfield, Utah. During the same period a new 300-pupil school dormitory will be built at Flagstaff, Arizona to serve the needs of Navajo high school students who will attend the public high schools there, and similar dormitory facilities to serve the needs of 150 high school students will be built during the same period, at Holbrook, Arizona.

Pending completion or authorization of new, permanent dormitories, the makeshift or temporary facilities will continue in use. These include quonset huts with trailer bath and toilet facilities at Snowflake, and a former bowling alley converted to use for dormitory purposes at Richfield. Aztec will receive a new dining room-multi-purpose room in the coming year, an addition which will make the dormitory operation more comfortable for the children enrolled in the public school system there. At Aztec the dormitory operation has proven so successful that the town would like to increase Navajo enrollment from the present 119 to 300.

Thus, the Peripheral Dormitory operation has become an important aspect of Navajo education. It is extremely interesting, not only because of the acceptance that has been accorded to Navajo children enrolled in the public schools outside the Reservation, where they attend classes with non-Navajos, but also because children in the peripheral town program lead their school life in a different educational milieu than that which obtains on the Reservation. On the Reservation, Navajo children learn English as a foreign language. Since the learners are in the majority, they have no one with whom to practice their newly acquired language skills except one another or their teacher. It becomes an artificial situation in which phonological[3] and other characteristics of their own Navajo language are carried over into English, resulting in non-standard pronunciational and structural peculiarities with respect to the English they speak. In the bordertowns, the Navajo students have unlimited opportunities to hear English as it is spoken by boys and girls who learned it as their mother tongue. Also, and aside from the language, the environment offered in the bordertowns includes as realities many aspects of our material and non-material culture which exist only in the memory or imagination of Reservation residents (e. g. fire engines, fire hydrants, theaters, churches, bells, towers, flagpoles, etc).

Twenty year agreements were completed in 1954 with the Boards of Education in Gallup, Aztec, Winslow, Snowflake, Holbrook and Richfield whereby the public school systems in these communities agreed to accept specified numbers of Navajo children annually, at least to 1974, and to meet the impact of increased enrollment the Bureau allowed $1,000 per capita for the enrollment of Navajo children agreed to by each of the towns in refer-

(3) See the sketch of the Navajo Language in the Appendix.

ence. The new classroom facilities have been provided and are presently in use. In addition, through contract with the State Departments of Public Instruction, the full per capita cost of educating the Navajo children is borne by the Federal Government from funds made available pursuant to the provisions of the Johnson-O'Malley Act.

PRESENT BORDERTOWN DORMITORIES

School Location	1957-58 Capacity	1956-57 Enrollment	Anticipated Enrollment 1957-58
Aztec, New Mex.	120	119	120
Gallup, New Mex.	500	487	500
Holbrook, Ariz.	300	301	300
Richfield, Utah	120	121	120
Snowflake, Ariz.	120	123	120
Winslow, Ariz.	300	309	300
Total	1,460	1,460	1,460

THE WINSLOW (EMMONS) DORMITORY

The town dormitory located in Winslow, Arizona, is a very well operated and well integrated facility with an enrollment of 309 Navajo children during the school year ended June 30, 1957. In view of the availability of detailed information regarding this particular operation[4], and the general similarity of dormitory programs there and in the remainder of the bordertowns, a description of problems, procedures and characteristics of the Winslow program closely parallels like features of other similar operations, permitting a description of the Winslow dormitory to extend generally to other town dormitory programs.

Like its sister operations, the town dormitory program at Winslow, Arizona, began in 1953. Initially, 14 old buildings known as the "Sunset Housing Project," located on a 10.8 acre area of land in the northwestern part of Winslow were utilized for school and dormitory purposes. One of the old barracks-like buildings was converted to temporary use as a dining room and kitchen; another served as an administration building; three of the structures were used as classrooms pending construction of necessary additional space in the public school system proper; two of the buildings were used as study halls, and the remaining three remodeled structures were used as quarters for school and dormitory staff. Other buildings in the old project were not remodeled, but were used for storage, recreational and other purposes as required by the program.

In its first year of operation, the Winslow dormitory had an enrollment of 180 pupils. Lacking classroom space in regular public school buildings at

(4) Provided by Mrs. Florence Ann Beasely, Superintendent of Arizona Peripheral Dormitories.

Winslow provides modern school facilities and . . .

Pleasant classrooms to students from Emmons Dormitory.

The new Emmons Dormitory, completed in 1956, provides . . .

Pleasant living conditions for 304 Navajo children attending the Winslow Public Schools.

GREG FOR VEEP

There is a spacious cafeteria at Emmons Dormitory, and . . .

Television never lacks an audience during evening recreation periods.

that time, the children attended class in 3 of the remodeled temporary structures which had been incorporated into the Winslow public school system, and which were staffed by public school teachers. Actually, it was not until two years later, in the 1956-57 school year, that completion of new classrooms permitted the abandonment of the old structures used for class purposes.

During the second year of the Winslow program, 235 pupils were enrolled and accommodated in the temporary dormitories and classrooms. The operation was similar to that of the preceding year except that junior and senior high school students were housed at the dormitory and enrolled in the local high school.

During the second year of the program at Winslow, construction commenced on a new permanent dormitory facility which was completed and occupied in the latter part of September, 1956. The comfortable modern structure cost $411,000, and is built of pink cinder blocks. It houses 152 boys and 152 girls in four dormitory wings, contains its own kitchen and dining room facilities, study halls, lounges, laundry, storage and sewing rooms etc. Tables and chairs used in the spacious dining room may be folded to provide space for recreational activities. Some of the old structures on the dormitory campus have been razed, while others have been remodeled to serve as a student canteen, as quarters, or for other purposes. The student body, represented by an organized student council, operates the canteen as a student activity.

Concurrently with occupancy of the new dormitory building, the Navajo children discontinued classes in the temporary barracks-type classrooms and entered the newly completed facilities at the Jefferson, Washington, Lincoln and Wilson grade schools and, in the third year, the Navajo students were entirely integrated into the Winslow public school system.

Total enrollment in the public school system at Winslow during the 1956-57 school year was 2,736, of which 664 were in high school and 2,072 in elementary schools. Of this total 11% were Navajo enrolled in the dormitory program. An additional 265 Navajo and other Indians attending Winslow schools, but not included in the dormitory operation brings total Indian enrollment in the school system to approximately 20%. Including Indian children enrolled in Winslow public schools but not included in the dormitory program, 462 or about 22% of the total enrolled in **elementary** schools were Indian (principally Navajo); similarly, Indian students in the high schools, including 73 in the dormitory program, make up nearly 17% of the total high school enrollment. To achieve the best possible integration of Indian and non-Indian children, it is the policy that total Indian enrollment in the school system should not exceed 35%, thus maintaining the Indian enrollment in the minority, subject to constant pressures to learn English and make other beneficial adjustments through everyday association with their non-Indian schoolmates.

It is the policy, agreed upon between local school boards and the Bureau of Indian Affairs, that children included in the peripheral dormitory program must be "up to grade level"—that is to say, if they enter as fifth graders they must indeed be capable of fifth grade work as indicated by appropriate tests and other standards of judgment. Although it is the policy to adher to this standard for the best interest of all children enrolled in each class, it is not always initially possible to do so, partly because of the physical and cultural environment attendant upon reservation living; partly because of the need for readjustment to a new school situation. Thus, only about 1% of the Navajo children included in the dormitory operation at Winslow have so far been "up to grade level" at the time of enrollment. Subsequently, their progress is steady and highly satisfactory, and although most of these children remain in the lower half of their classes, some attain a place on the school honor rolls. They are intelligent and ambitious, but it is not easy to transfer to a new environment, adjust to new conditions of life, and compete on an equal footing with non-Indians reared in that environment and speaking English as their mother tongue.

To assist in offsetting the cultural and linguistic handicaps under which Navajo children enter the public schools to compete with non-Indian classmates, a new phase of the instructional program was initiated in the 1956-57 school year, involving the employment of professional teachers to provide tutoring service to children who require such aid. The tutors assist children on an individual basis in the evening during study hall periods, and this aspect of the program has been effective in bringing many children "up to grade level," or in the improvement of work, especially in high school studies.

Involving 234 elementary children ranging in grade from 3-8, the tutoring program was instrumental in materially raising the quality of their school work over the course of the year, as reflected in the fact that, although none of these dormitory children achieved a place on the school honor roll during the first semester of the past school year, 10 of them were on the honor roll during the second half of the year. It was also reflected in the fact that, in September of 1956, 71% of the dormitory high school students were doing unsatisfactory work in one or more subjects, only 40% were so reported in November, and only 26% in May of 1957.

The Navajo children have been well acepted by the Winslow community, and the Bureau of Indian Affairs, Civic leaders and Tribal officials have made a great effort to accomplish such aceptance. The children participate in athletic programs, in church, civic and other affairs.

The children presently enrolled in the Winslow dormitory program range in age from 8 to 20 years with a median at perhaps 13 years of age. School construction on the Reservation still has not reached a point whereat the policy of providing school facilities near home can be implemented with regard to **all** school children aged 6-12 years.

In the matter of adjustment to changed living conditions, the very matter of living together as a large group poses a problem for people whose previous experience has been largely in the form of rural living. The boys and girls must learn social graces—they must learn to hold their heads high and lose their shyness in each other's presence. In this aspect of adjustment, progress has been especially rapid. Of 166 pupils enrolled in the Winslow Dormitory in its initial year of operation, 96 or 58% remain. About 22% of the pupils enrolled each year do not return the following year due to transfer to other schools, retardation and other factors as yet undetermined. Retardation in grade level and drop-out remain problems to be analyzed and solved in improving the effectiveness of the Bordertown Dormitory program.

As a result of the Navajo impact on the Winslow school system, and with the funds provided by the Bureau of Indian Affairs to expand classroom space, an addition was constructed in conjunction with the Jefferson Elementary School, a new Junior High School was built, and part of the available funds were used in the construction of a new library building.

Aside from being the location of one of the major bordertown dormitory operations, Winslow is the headquarters for administration of all school dormitories in the State of Arizona, which are operated under the immediate local supervision of School Dormitory Principals, and under the over-all supervision of a Superintendent of Arizona Peripheral Dormitories. The latter coordinates school dormitory programs, prepares budgets for the several operations, provides liaison with civic leaders in the several towns involved, and performs similar functions necessary to smooth operation.

The Off-Reservation Boarding Schools. It was pointed out at the beginning of this section that after World War II, in 1947-48, there was school space available for only about 9,900 Navajo children, counting schools of all types—Bureau, public, and mission—a little over 41% of the school age population. As a result, many children were growing to adulthood without the educational tools so necessary in earning a livelihood. Wartime experiences had forcefully brought to the Navajo people the realization that schooling was a necessary prerequisite for successful living, and they were clamoring for universal education for Navajo children.

At various locations outside the Navajo country, principally in distant states, there were large Indian Boarding School facilities, such as those located at Riverside, California (known as Sherman Institute), Chemawa, Oregon, Chiloco, Fort Sill and Concho in Oklahoma, Phoenix, Arizona and Albuquerque, New Mexico. They were operated to serve Indian groups whose continued need for boarding school facilities was questionable inasmuch as, in most instances, their needs could be served adequately by the public schools. Thus, as early as 1946, 290 Navajo students were enrolled in Sherman Institute at Riverside, California. These children were over school age, ranging from 12-18 years, and most of them had never before gone to school—they could not even speak, much less read and write the English language. In a few more years they would enter into competition with fellow citizens, under a handicap, and in view of their advanced age they required not only a school opportunity, but an opportunity closely adapted to their special requirements.

As a result, in 1946 at Sherman Institute the Special Navajo Educational Program was born. Utilizing teacher-interpreters and instruction in the Navajo as well as the English language, a special curriculum and special techniques were developed to meet the objectives of providing basic knowledge of spoken and written English, training for social adjustment and development of vocational skills within a 5-year period of accelerated instruction. Knowledge and experience gained during the first year of operation of the Special Navajo Program pointed the way to necessary improvements in instructional techniques and methods, and the results were so encouraging at the end of the first school year that the Program was thereafter rapidly expanded as new school space was made available at other off-Reservation Boarding facilities.

Beginning in the 1946-47 school year with an enrollment of 290 Navajo children in the 12-18 year old age group, the Program involved an enrollment of 915 a year later and six years later, in the 1956-57 school year a total of 7,132 Navajo children were enrolled in the off-Reservation Boarding Schools, partly in the Special Navajo Program, some in modified forms of the Special Program, and some in a regular educational program. Obviously, as the years passed the need for the original 5-year accelerated Special Program changed since there was a limited number of children aged 12-18 who had never gone to school. During the same period there were children in other age groups for whom there was no school space available in Reservation facilities, and there were others who, though retarded in grade, had **some** previous educational experience. Thus, the Special Program has undergone periodic modification to maintain close adaptation to changing conditions and requirements.

A great impetus was given to the Special Navajo Program, when beginning at mid-term in the 1949-50 school year, the former Bushnell Veterans Hospital, constructed a few years previously at Brigham City, Utah, and remodeled as a boarding school, commenced operation with an initial enrollment of 542 Navajo children. Operating under the name Intermountain Indian School, this huge facility enrolled 2,336 Navajo children in the Special, Modified and Regular Education programs during the school year ended June, 1957, and has been a major contributor to the progress of the last few years in the field of Navajo education.

As an aspect of changing educational requirements and the progressive adaptation of educational planning and program to meet those requirements, a new program was initiated during the 1956-57 school year at Intermountain, known as The Accelerated Program, with an initial enrollment of about 500 children. This program is designed to meet the special requirements of Navajo children aged 12 years or over, who are 2 or 3 years retarded academically, to permit students is this group to complete high school by age 20.

One of the objectives of the Special Navajo and other types of program in the off-Reservation Boarding Schools, as well as Navajo education generally, is to free the Navajo people of dependency on meager Reservation resources. The extent to which this objective has been attained with regard to the Special Navajo program is reflected in the Appendix of this volume, in the table entitled "Special Program—Status of Graduates by School." Each of the Special Program schools assists graduates to obtain jobs outside the Reservation.

Although there are many advantages in the education of Navajo children of lower age groups at Reservation facilities where they can maintain childhood contacts with their parents, and advantages in education in the public schools located outside the Reservation, available space at these installations is inadequate to meet the total need, and the space available at the off-Reservation boarding schools will be required as an aspect of Navajo educational programming for many years to come.

The Mission Schools. A total of 25 Mission and parochial schools serving an enrollment of 1,483 Navajo children during the 1956-57 school year, are operated by various Christian denominations on and about the Reservation. Of these, the largest and oldest are St. Michaels Indian School (Roman Catholic; enrollment 320); Ganado Mission School (Presbyterian; enrollment 120); Navajo Methodist Mission (Methodist; enrollment 220); and Rehoboth Mission (Christian Reformed; enrollment 129). Enrollment ranges from 3 pupils to 320, with an average at 59 in these facilities.

Higher Education and Scholarship Program. Concurrently with the development of educational opportunities for Navajo children at an elementary and high school level, the Navajo Tribe has taken action to facilitate professional and vocational training at a college level for those high school graduates who desire higher education, and whose academic records show promise for success at a college level.

To implement the higher education program the Tribal Council, in fiscal year 1954, appropriated $30,000 to finance free educational scholarship grants for outstanding Navajo high school graduates. In fiscal year 1955, this Tribal budget item was increased to $65,000, and in 1956 to $100,000. In the fiscal year 1957 budget it was increased to $130,000 and for the first time an additional $50,000 was appropriated to permit grants for vocational training. The Tribal money has been used in conjunction with varying amounts of Federally appropriated money available for payment of tuition at State institutions.

To date, a total of 226 Navajo boys and girls have received free Tribal grants to finance their education. Of these, one is a senior at Baylor University School of Medicine, one is studying engineering at Iowa State College, others are in pre-medical and pre-legal work, or in various colleges and universities studying to be nurses, teachers, agronomists, etc. Scholarship recipients are attending more than 40 institutions ranging from Manhattan College in New York City, and Loyola University in the midwest to Washington State College on the west coast.

Scholarship grants range from $400 to more than $2,000, although the Tribal Council limits grants under normal circumstances to $1,200 per annum for single students and $2,000 for married students. Beyond $2,000, special Council or Advisory Committee authorization is required.

Tribal Scholarships are granted by a Scholarship Committee, the composition of which was specified by the enabling Council resolution to include the Council Chairman and the General Superintendent of the Navajo Agency (or their authorized representatives), the Chairman of the Council Committee on Community Services (Education), a member to be appointed by the Chairman of the Tribal Council from outside the Tribe and the Bureau of Indian Affairs, and a fifth member to be chosen by the four members designated above. The Committee is presently composed of J. Maurice McCabe, Tribal Executive Secretary, Dillon Platero, Chairman of the Council Education Committee, Joseph M. Brooks, Principal of the Gallup High School, Dr. C. Jordahl, U. S. Public Health Service, and Robert W. Young, Assistant to the General Superintendent, Navajo Agency.

In March, 1957, the Tribal Council acted to authorize the appropriation of $5,000,000 of Tribal funds for the establishment of a Tribal Scholarship trust fund, the proceeds from investment of which will be used to finance the scholarship program in future years. The fund is expected to provide at least $200,000 per annum for this purpose.

The Tribal Council Committee on Education. The development of policy and guide lines with relation to the education program involves many delicate decisions and procedures which, in their application, affect the Navajo people as parents who have a deep affection for their children. It is fortunate that, in the development and application of this policy, the Navajo Agency Branch of Education has the close cooperation and support of the Council Committee on Education. If children are viewed as impersonal statistical elements, then a policy including separation of these units from their families for education in off-Reservation schools can be defended as a practical necessity without further ado, as a logical approach to the solution of a problem. However, children are not merely statistical elements, and a successful educational program adjusted to Reservation life and conditions, and to other requirements of the Navajo population, must go beyond planning for "Johnny Begay" as a statistic, to view him also as a child closely

Since initiation of the Navajo Tribal Scholarship Program in 1953 an ever increasing number of Navajo girls are training as nurses and returning to serve their people in the Reservation Hospitals

Photo by James Bosch

attached to a set of parents who in turn form a segment of some Reservation community. His parents and the whole community in which he lives must be informed about over-all educational problems and planning. They must have a voice in the analysis of the over-all problem and the development of solutions, either personally through local community meetings, indirectly through their elected representatives on the Tribal Council, or both. If they share in such analysis and solution, they cooperate in carrying out the program because they are convinced that it is for the best interest of their children. If some aspect of the program in the development of which they have shared requires modification or adjustment, the Navajo parents want an avenue through which to secure such modification or adjustment.

The Council Committee on Education acts in a liaison capacity between the Navajo parents of school children and the Bureau's Branch of Education, interpreting program problems to the Navajo public and procedural problems to the Branch of Education. With a detailed understanding of both the technical and the human facets of the many sided problem of providing universal education for Navajo children, they are invaluable in working out policies, guidelines and compromises necessary to attainment of the educational objective. The Council Committee meets monthly with key personnel of the Navajo Agency Branch of Education to discuss all facets of the education program and meets frequently with local Navajo communities for similar purposes. In addition, the Council Committee prepares informational material for broadcast in the Navajo language over local radio stations, investigates local school problems, and otherwise acts as an effective medium for consultation and programming.

2. HOSPITAL AND HEALTH FACILITIES

(Report prepared by U.S. Public Health Service. Not edited.)

The Long-Range Rehabilitation Act authorized a total appropriation of $4,750,000 to reconstruct, expand, or replace hospital facilities at Shiprock, Tuba City, Winslow, and Chinle; to establish health centers and field clinics and mobile dental and medical services, and to provide more preventive health services, aimed toward the development of an integrated health program for the Navajo Indians.

By the end of fiscal year 1954, over $2,710,000 of the Long-Range Program funds had been authorized for the replacement of the new 75-bed Hospital at Tuba City, preliminary plans for the replacement of Shiprock Hospital and other related developments, detailed in the 1955 edition of the Navajo Yearbook. In 1956, the first fiscal year of the operation of the

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1) Full responsibility for the Indian health program was transferred from the Bureau of Indian Affairs to the Public Health Service, in the Department of Health, Education, and Welfare, on July 1, 1955, by Public Law 568 of the 83rd Congress. To administer this program, the Public Health Service organized the Division of Indian Health, as a part of the Bureau of Medical Services. Report submitted by U. S. Public Health Service.

Indian health program by the Public Health Service, approximately $2,040,000 had been appropriated for the construction of health facilities on the Navajo, bringing the total appropriation up to the authorized program of $4,750,000, for hospitals and health facilities. The major projects for which funds were appropriated in 1956 are the 75-bed Hospital at Shiprock, and several health centers and clinics described below, as well as planning funds for a 200-bed medical center at Gallup.

The P.H.S. Albuquerque Area Office has prepared the section of the report describing the health program on the Navajo Reservation, together with a special report provided by the Cornell University Medical School staff under contract to the Public Health Service, regarding the operation of the Many Farms Clinic and the tuberculosis drug treatment program, conducted as a special research project. The Public Health Service has been extremely generous and cooperative in providing a complete report on the Navajo Health Program, and also in developing statistical data pertaining to morbidity, mortality, and other facets of the health program, included in the Appendix of the Yearbook.

THE CONSTRUCTION PROGRAM

The construction of hospitals, health centers, and related field health facilities is essential to achieve the objective of a well integrated medical care and public health program on the Navajo Reservation. The following is a summary of the status of the major projects of the health facility construction program on the Navajo.

The Shiprock Hospital. Appropriation of $1,450,000 was made available for the construction of a new 75-bed Hospital at Shiprock, New Mexico. The planning program has been completed, and the contract was awarded to architects in March 1956. Working drawings and specifications are scheduled for completion by October 1957, and construction is anticipated to begin immediately thereafter.

The Gallup Hospital. A site has been selected, and the planning program prepared for a 200-bed medical center and outpatient department to be located at Gallup, New Mexico. Funds in the amount of $3,400,000 have been appropriated, of which $200,000 had been allocated in 1956 for architectural plans and specifications. The architect-engineering contract was awarded in November 1956. Working drawings and specifications are expected to be completed by April 1, 1958.

Field Health Centers and Clinics. Working drawings and specifications are anticipated for completion in the fall of 1957 for the construction of health centers at Kayenta, Arizona, and Tohatchi, New Mexico, and for complete remodeling and expansion of the health facility at Chinle, Arizona. In addition, standardized plans have been developed and working drawings and specifications are expected to be completed during August 1957, for the field clinic facilities at Pinon, Round Rock, and Cornfields, Arizona; Pueblo Pintado, New Mexico; and Indian Wells, Arizona (probably will be located at White Cone, because of lack of water at Indian Wells). Funds in the amount of over $500,000 have been allocated for these projects.

Housing for Health Personnel. The Public Health Service shares with the Bureau of Indian Affairs, private commercial companies and other operating enterprises in the Reservation area, the serious problem of providing housing for essential staff, and the virtual impossibility of recruiting technical personnel, in the absence of "community" housing. Following the transfer of the health program to the Public Health Service, the problem was met temporarily, on an emergency basis, by securing the transfer of temporary type housing units from other Government agencies, including 21 homes from Los Alamos, and 101 surplus Army units from Camp Pickett, Virginia. These temporary units require replacement, as do many of the substandard inadequate units which were transferred to the Public Health Service together with the other health facilities.

Approximately $350,000 was appropriated in 1957 for the construction of 24 permanent housing units at Chinle, Arizona (6); Kayenta, Arizona (4); Crowpoint, New Mexico (5); and Shiprock, New Mexico (9). Construction is scheduled for the fall of 1957.

THE HEALTH PROGRAM

The magnitude of the health deficiency among the Navajos is still very great in spite of recent improvements, as evidenced by exceptionally high death rates among Indian infants and children and deaths and morbidity from preventable diseases such as influenza and pneumonia, dysentery, and tuberculosis.

The PHS objective is to provide a comprehensive medical and dental care program, and public health services, and to elevate the level of health to a point where it will compare favorably with the nation as a whole.

The health program for Navajo Indians is directed in the field through the Division of Indian Health Area Office, Albuquerque, New Mexico, and the Sub-Area Office at Window Rock, Arizona.

PHS Health Facilities. The PHS operates 5 hospitals on the Navajo Reservation. The total available bed capacity is 437:

Crownpoint	56
Fort Defiance:	
General	115
Tuberculosis	93
Shiprock	41
Tuba City	75
Winslow	57

Each of these hospitals has a large outpatient clinic service through which therapeutic and preventive medical and dental care is provided. Several large health centers—Chinle, Arizona; Tohatchi, New Mexico; and the Gallup Clinic in the Gallup Community Indian Center—and a chain of field health clinics serve as a front line of contact with the Navajo people, in making available medical care and preventive health services, near population centers and schools on the reservation. At the Intermountain Boarding School, Brigham City, Utah, the PHS is responsible for providing health services to Navajo students. Navajo students are also provided with medical services at other off-reservation Indian Boarding Schools, where they are enrolled.

The first four tables in the health section of the Appendix contain latest statistical data relating to the services at the Navajo health facilities.

Services through Contract Facilities. In 1952, as a result of a special tuberculosis case-finding survey, it was necessary to provide beds for tuberculosis patients in contract facilities, because of insufficient beds in BIA hospitals for care of some 500 persons. Between 1952 and 1956, contractual arrangements were made each year for the use of beds for tuberculosis patients in 10 State and private sanatoria in Arizona, Colorado, California, and New Mexico. The patient load in these contract facilities reached a peak of 517 in May 1956.

Under the Public Health Service, there has been a continuing intensive case-finding program on the reservation. An expanded chemotherapy program for ambulatory patients, and new methods of treatment resulting in shorter length of hospital stay, have caused a substantial reduction in the daily patient census in contract hospitals. The patient load in April 1957 had declined to 371.

In addition to contracting for hospital beds and specialist services for tuberculosis patients, Navajo general patients are referred to 5 general hospitals in Albuquerque, Gallup, and Farmington, New Mexico; and Durango and Cortez, Colorado. The Bernalillo County-Indian Hospital in Albuquerque, New Mexico, with whom the PHS contracts for the use of up to 100 beds, receives many Navajo patients.

Where there are no PHS facilities, near Navajo schools and off-reservation school dormitories, contractual arrangements are made for medical and hospital services for Navajo school children.

The PHS contracts with the State mental hospitals in New Mexico and Arizona for care of mental patients.

Health Activities and Services. In line with the original plans for the long-range Navajo development program, the Division of Indian Health, within available resources, is directing its efforts toward developing a comprehensive preventive health program including tuberculosis control, health

Mobile units, operated by the U. S. Public Health Service, provide a welcome opportunity to all Reservation residents for periodic chest X-rays.

education, maternal and child health, public health nursing, sanitation, medical social service, dental care, and nutrition—all representing services integrated with the facilities and resources available for curative services, and aimed at the prevention of illness and provision of more frequent and better health service.

The Tuberculosis Control Program. At the beginning of fiscal year 1956, a Medical Officer was appointed to direct the tuberculosis control program on the Navajo. Two mobile X-ray units, in addition to stationary units installed in reservation hospitals and health centers were used in carrying out an intensive tuberculosis case-finding program—a project which involved the close cooperation of Navajo tribal representatives and tribal organizations, school personnel, missions, traders, and representatives of other reservation activities. A tuberculosis case register has been established and a new system of tuberculosis program records installed. These are of great assistance in the supervision of cases on the reservation, and in providing continuity of service and follow up, after discharge from hospitals. The case summaries and case register enable the Tuberculosis Control Officer to know the size and nature of the tuberculosis problem, on a current basis, for use in program planning and supervision, and to enlist tribal council aid and guidance in the problem.

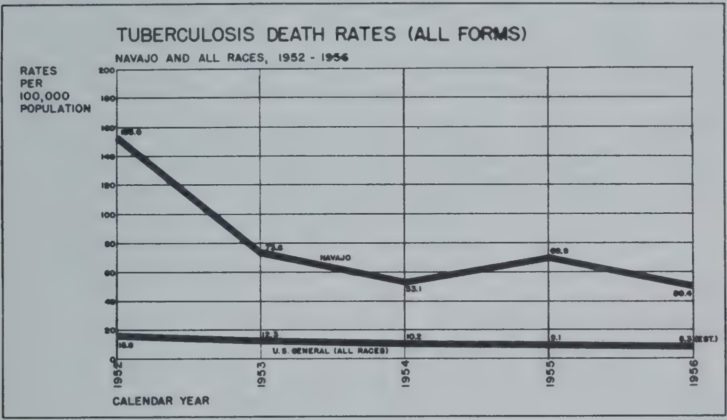
The following table summarizes the tuberculosis control program to date:

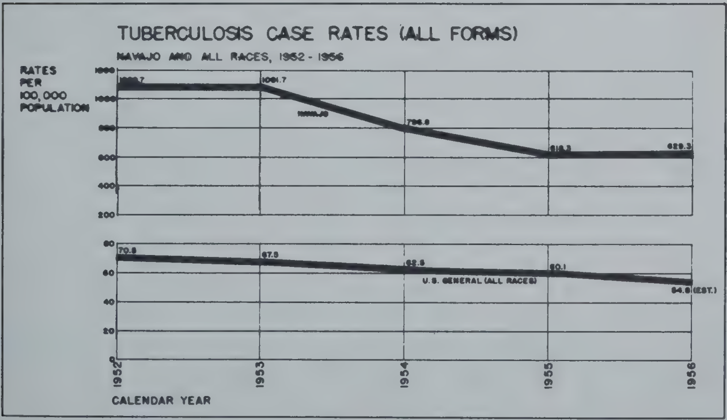
HOSPITALIZATION OF NAVAJOS FOR TREATMENT OF TUBERCULOSIS
1952-1957

Type of Hospital	Admissions	Discharges: Maximum Hospital Benefit	Discharges: Against Medical Advice	Deaths	Patients Remaining (May 1957)
Contract Hospital	694	258	64	16	351
PHS Indian Hospitals	298	136	42	15	106
Total	992	394	106	31	457

The chart on **Tuberculosis Case Rates,** indicating comparative morbidity from tuberculosis for Navajos and for the general population, emphasizes the need for intensive, sustained effort to control the disease among the Navajo. The high point in the chart for the period 1952-1953 corresponds to the year in which a comprehensive survey was conducted involving the X-raying of about 20,000 Navajos. This survey resulted in the identification of many cases of tuberculosis. The line in the chart between 1955 and 1956 reflects the results of a case-finding survey during that period, and involving about 24,000 X-ray pictures with follow-up of persons suspected of having the disease.

The chart on **Tuberculosis Death Rates** indicates a noteworthy decline in the number of deaths from this disease and the progress in the tuberculosis treatment program since 1952. It is still not conquered, and it remains a health problem of primary importance with an incidence among Navajos over 10 times that of the general population and a death rate more than 6 times as great; but progress to date toward tuberculosis control and the acceptance of the program is extremely encouraging.





Public Health Nursing. The public health nurse occupies an extremely important position in all preventive and curative health services aspects of the program. Through direct contact with Navajo patients and families, in the home and the school, as well as in the hospital, they provide emergency care to the sick, and teach preventive health practices. In the Navajo country the public health nurse drives long distances over poor roads, and because of language differences, works through an interpreter in communicating with patients. This is difficult and exhausting, especially if the interpreter lacks adequate background information[1] against which to understand the concepts he is required to express in Navajo. Lack of suitable quarters and other handicaps frequently pose a problem in recruiting and retaining staff for this important activity. Nonetheless, there has been a consistent increase to bring the total Public Health nursing positions up to 25 in fiscal year 1957.

The following table provides a detailed picture of the activities and services of the Navajo Reservation public health nursing staff, during a 15-month period, through March 1957:

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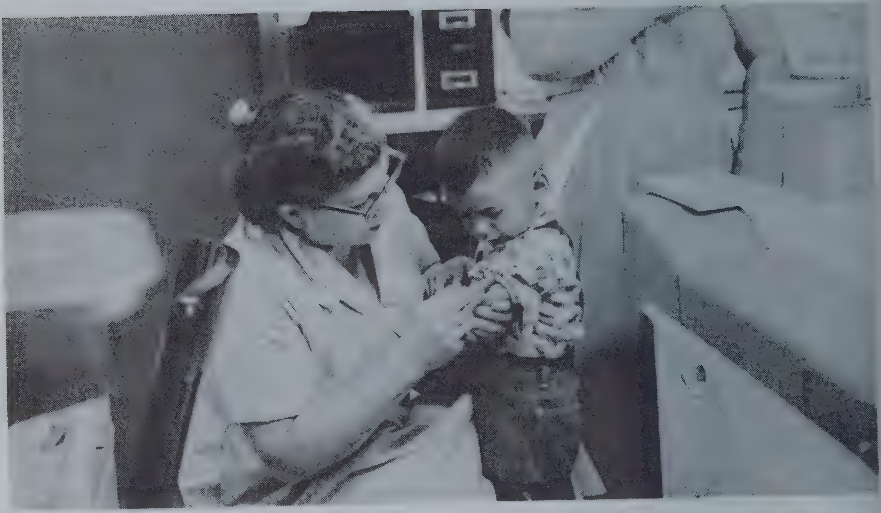
(1) Editor's Note: To no small degree the difficulties and sometimes failure in conveying some important aspects of the health and other programs over the years among the Navajo people has owed to inadequate, ineffective interpretation between Navajo and English. As we pointed out in the Language Sketch in the Appendix, ability to interpret medical and other concepts into Navajo involves both training and skill. This is true to such a great degree that the positions of interpreter especially with relation to medicine, should be established at a sufficiently high level to attract the most highly qualified candidates. In the final analysis effective interpretation may spell the difference between productive and ineffective effort on the part of public health nurses and other medical personnel.

WINDOW ROCK SUB-AREA
PUBLIC HEALTH NURSING ACTIVITIES
JANUARY 1956 THROUGH MARCH 1957

Type of Services	Number of Services
Maternity Home Visits	409
Tuberculosis:	
Home Visits	4,820
Admissions	3,565
Referred for X-rays	9,474
School Health:	
Assisted with Physical Examinations	5,681
Treatment or First Aid	8,821
Hours on Duty in School	5,095
Inspection—Individual by Nurses	12,761
Immunizations:	
Initial	15,329
Booster	13,837
Tests Performed	5,729
Specimens Collected	765
Patients Referred for Hospital Care	9,199
Total First Visits to Home	2,717
Health Supervision:	
Infant	
Admissions	1,629
Home Visits	1,060
Clinic	685
Pre-School	
Admissions	2,942
Home Visits	1,268
Clinic	1,625
School	
Admissions	1,532
Home Visits	1,212
Clinic	932
Adult	
Admissions	2,400
Home Visits	997
Clinic	676
Mileage	343,673



The Public Health Service Program stresses preventive medicine . . .

In such forms as immunization, chest X-ray and health education.

WINDOW ROCK SUB-AREA PUBLIC HEALTH NURSING ACTIVITIES COMPARISON OF SELECTED SERVICES FOR SPECIFIED PERIODS

Services	Fiscal Year 1956	Fiscal 1957* Year	Estimated Increases in 1957 Number of Services	Percent
Maternity Home Visits	173	296	123	71.1
Tuberculosis Visits	1,684	3,352	1,668	99.0
Crippled Children Visits	469	945	476	101.5
Initial Immunizations	5,792	12,172	6,380	110.2
Booster Immunizations	7,534	9,112	1,578	20.9

*Estimate based on services through March 1957.

Maternal and Child Health. Among the Navajo, increasing emphasis is being placed on supervision of the expectant mother throughout the maternity cycle. Attendance at clinics in the prenatal period has increased and more women are delivering in hospitals. During 1957, the number of mothers delivering in hospitals on the Navajo increased over 10 percent compared with 1956.

Through the Public Health Service hospitals, clinics, and field health centers, women receive medical, nursing and allied services during the prenatal and postnatal periods and at time of delivery. These services include complete medical examination and treatment. Consideration is given to the mental, social and emotional needs of the mother and her family. Particular emphasis is placed on providing learning experiences which will help the mother gain greater understanding of good health practices for herself, the newborn baby, and her family.

Child health occupies a position of primary importance as reflected by the fact that nearly 50 percent of the average daily patient load in the hospitals consists of children. They are admitted for the treatment of various pathological conditions, including infant diarrhea, malnutrition, upper respiratory infections, tuberculosis, and other diseases.

The Public Health Service provides a special medical staff of physicians trained in pediatrics to meet the need for the specialized care of children in hospitals and in field stations. Preventive services for those age groups are being extended as public health nursing services become more widely available. These services include infant and pre-school examination and follow-up, immunizations against the common diseases of childhood, and instructions to parents on the care and feeding of children.

Health services to the school age child constitute a major activity of field health staff. Health supervision and medical care are provided for children in dormitories, as well as to those on the reservation.

The Crippled Children's Program is expanding steadily, with special orthopedic clinics presently operating at Tuba City, Chinle, and Winslow in collaboration with the State of Utah and the Children's Bureau. These services provide not only the correction of physical deformities but the treatment of middle ear infections, mastoiditis and other handicapping conditions. In New Mexico, the State Crippled Children's Program has assumed responsibility for operation of the orthopedic clinic at Shiprock and continues the operation of similar services at Gallup. Under these programs, children are hospitalized in Salt Lake City, Truth or Consequences, and Dallas. Very frequently they are returned to the reservation for convalescent care. Special facilities have been developed at Winslow and Crownpoint to provide the care required during convalescence.

Health Education Services. Regular and frequent contact with the Navajo in his own community setting is necessary to reach the desired goal of the health education program. Educational methods and materials need to be adapted to provide the Navajo adult with an opportunity to increase his knowledge of the causes of his individual, family, and community health problems and to help him mobilize his energies and resources toward an improvement in his well-being.

In the past eighteen months, it has been possible to develop important segments of the program and to initiate a long-range plan. Two professional public health educators are located at Window Rock to provide guidance to the development and implementation of the program. Community Workers (Health) have been employed for each of the eight field health centers and health stations.

The Community Workers (Health) have been selected on the basis of established records that indicate they are known and accepted by Navajo communities and possess an understanding of the pattern of the Federal Government's relationship with the Indians, and an academic background in the educational field. They have been oriented to the public health field through a joint project of the Division of Indian Health and the School of Public Health, University of California.

The contractual arrangement with the University provides for the involvement of faculty members in the health education program on the Navajo Reservation. The experience in the operating program of the Division of Indian Health then provides the teaching material that is adapted to the level of the employee being oriented to the public health field.

In addition to the above professional personnel, the program design provides for an essential bridge between the Navajos in their communities and the health and medical services rendered by the Division of Indian Health. In April 1957, four Community Health Education Aides were employed, each of whom are members of the communities where they will work.

Arrangements have been worked out for their orientation and plans laid for on-the-job training that will be coordinated with development of the health program.

These Aides will serve as the communication link between the public health staff and the Navajo-speaking community. The staff will receive a continual flow of information about individual and community attitudes, practices, beliefs and customs; in turn, the Community Health Education Aide will carry back to the community information about health services and activities for the improvement of health and the prevention of disease.

Under the direction of the Area Medical Officer and the Sub-Area Medical Officer, the present health education staff is concentrating upon two major health problems on the reservation—tuberculosis control and prevention of diarrhea. Through the use of motion pictures, slides, film strips, flannel boards and other teaching tools, information on these two problems is being brought to the attention of Navajo communities.

Members of the field health facility staffs are working with the Navajo Tribal Chapters, families, traders, missionaries, and other groups in a variety of educational ways towards the improvement of the health and living conditions of the Navajo people. The people have expressed considerable interest in better water supplies, new tribal chapter houses for community meeting places, newer ways of preventing sickness, and in the feeding and care of babies and young children.

Work with Navajo leaders, community meetings, the adaptation of materials, and the joining of community forces toward the solution of problems has increased substantially with each increase in personnel. The response of the Navajos to the program is most gratifying. A long-range program of broad and intensive health education work has been planned to meet the needs that have been identified and described by numerous health and education personnel over the past twenty years.

It is hoped that resources will be available in the coming years to support the intensification of the community-based health educational activity. The Navajo people have demonstrated their ability and interest in wise utilization of the services made available, and undoubtedly a very fine potential is here waiting to be tapped.

Medical Social Services. The Public Health Service provides medical social services as an integral part of the over-all health program, for the purposes of: (1) identifying and evaluating the significance of social and environmental factors reflected in the patient's emotional structure and which bear upon diagnosis and amenability to medical treatment; (2) removing or minimizing personal and social difficulties that interfere with successful convalescence and social adjustment; (3) assisting the patient to use personality strengths and other potentials in the interest of construcive utilization of health services.

Medical social services are especially valuable in allaying worries and resolving problems attendant upon hospitalization in off-reservation sanatoria, far from home and family where, if such assistance were not available, the incidence of discharges against medical advice would be much greater than they are. The medical social service staff provides a line of communication with family members at home, and a medium for the solution of problems affecting the welfare and treatment of the patient. Aside from these advantages, the availability of this service is instrumental in overcoming resistance to hospitalization.

With respect to patients who have completed treatment, the medical social workers have been instrumental, in collaboration with the public health nurses, in developing a plan for the care and safeguarding of patients restored to their reservation homes and families. In this connection, family members are prepared to receive the returned patient, and an effort is made to preclude the possibility of reinfection of arrested tuberculous patients, by family members suffering from active forms of the disease.

Also, in conjunction with the Navajo Agency Branch of Welfare, arrangements are made for the foster home care of children whose parents must be hospitalized.

Medical Social Service collaborates with other agencies in securing vocational rehabilitation for arrested tuberculous patients and in the development of post-operative care for Navajo orthopedic cases who cannot be returned to reservation homes for convalescent care.

Sanitation Program Services. Recognizing the basic need for adoption of sanitary practices and improvement of environmental sanitation conditions by Navajo families, the PHS has recruited four additional professional personnel to work on the reservation. The total staff provided to conduct the expanding program this year, will be three sanitary engineers, four professional sanitarians, and eight Navajo sanitarian aides.

The program is geared to assist Navajo families to help themselves in the prevention of illness and in reducing preventable diseases, by protecting their drinking water and food supplies, controlling insects and rodents, disposing of human and other wastes in a safe manner, and reducing home accidents. The Navajo sanitation aides show individual families how to construct and repair pit privies, how to build garbage disposal pits and protect them from fly breeding, how to spray surfaces to kill insects, how to store water at the home, and how to serve and store food in a satisfactory manner to prevent contamination.

The professional staff inspects trading posts, and works closely with the Bureau of Indian Affairs staff at schools, and other reservation installations to assure that safe sanitary practices are carried out and that sanitation facilities are adequate in order to protect the health of Navajos at places where Indians congregate. They also furnish technical assistance to tribal authorities on methods of protecting communal water supplies and other sanitation facilities, and on the location and layout of community facility projects.

The sanitation program is also the spearhead in arranging services for the control of rabies. With the assistance of the Department of Agriculture, 65 clinics were held in 1957 for immunization of dogs owned by Navajos on the reservation.

Dental Health Services. During fiscal year 1957, there were 12 Dental Officers on duty in facilities serving the Navajo. These are assigned to: Fort Defiance (2), Intermountain School Infirmary (2), Tuba City (2), Shiprock (1), Tohatchi (1), Chinle (1), Crownpoint (1), Winslow (1), and Gallup (1). Dental services are also provided to Navajo children enrolled in boarding schools located outside the Navajo Reservation. During the period January 1956 through May 1957, 43,588 dental patients were attended, with 65,501 corrective service units provided, an increase of 25.4 percent over the preceding period in 1956.

* * *

The Comprehensive Health Survey and evaluation of the needs of the entire Indian health program which had been requested by the Congress was completed in the fall of 1956. The recommendations for an improved health program include improvement and modernization of health facilities and provision of adequate personnel housing, expansion of preventive health services with emphasis on sanitation, tuberculosis control, health education, maternal and child health care, additional dental services and mental health services, extension of medical services outside hospitals, and expansion of contractual arrangements.

To the extent that resources permitted, the past two years have witnessed an expansion of hospital, medical, and dental care services on the Navajo, intensification of already established preventive health service programs and development of certain new services, such as the pharmacy program, nutrition services, medical records, etc.

Pharmacy. Prior to July 1, 1955, there was no department of pharmacy to serve the hospitals and clinics, and no pharmacists were employed to provide pharmaceutical services. Since July 1955, steady progress has been made toward the development of this needed service, a program involving the establishment of hospital pharmacies and setting up a system to supply pharmaceutical services to smaller hospitals and clinics without pharmacy officers. At present, pharmacy officers have been stationed at Tuba City and Fort Defiance and well equipped pharmacies have been installed at these hospitals on the Navajo.

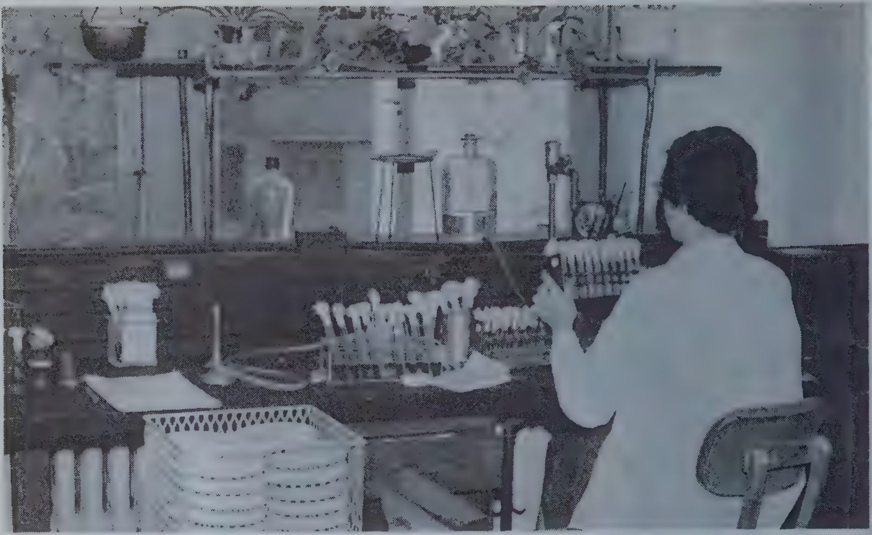
The pharmacy department is concerned with the evaluation, selection, control, and the utilization of drugs. The responsibilities of the pharmacy encompass the supplying of medications for inpatients and outpatients, volume compounding, prepackaging and drug formulation. This department serves as the focal point in the dissemination of drug-therapy information to the staff.

Personnel. The health staff serving at the facilities on the Navajo has expanded during the last two years. There has been an increase in the number of physicians, nurses, sanitarians, dentists, health education workers, medical social workers, other professional and technical personnel, as well as maintenance, administrative, and records staffs.

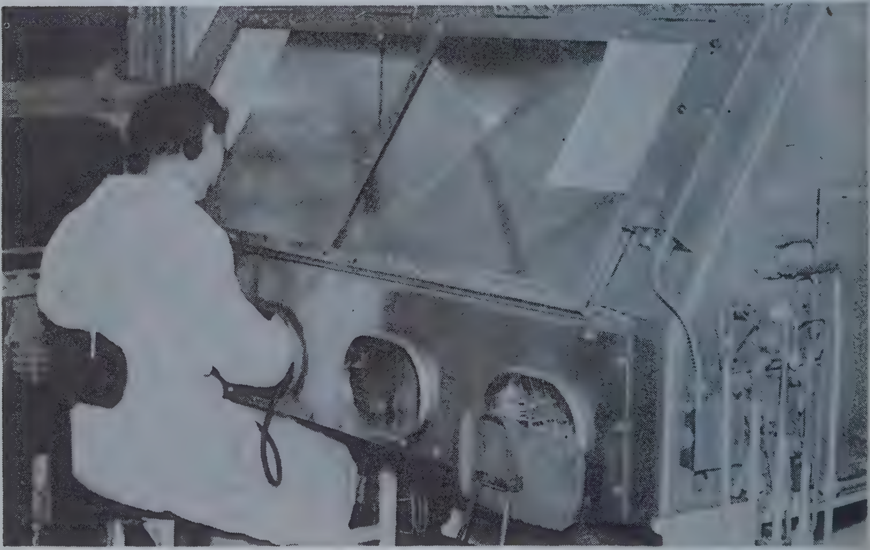
As of June 1957, nearly 500 people were serving at health facilities and providing health program services for the Navajo. This total includes: 32 physicians, 25 public health nurses, 75 clinical nurses, 12 dentists, 15 sanitary engineers and sanitarians, 10 health education workers.

The Division of Indian Health encourages the participation and seeks the cooperation of the Navajo Tribe in the development and planning for improved health services. The help of outside services—professional and missionary groups—is sought in the development of the Indian health program. Universities have been encouraged to participate in special health projects and research efforts.

Working in close cooperation with the U. S. Public Health Service, the unlimited facilities of Cornell University Medical College-New York Hospital are an important link in the Reservation field health and tuberculosis control programs.



The Cornell Medical College-New York Hospital laboratories and technicians are essential . . .



To the success of the tuberculosis drug treatment program carried out at the Fort Defiance Sanatorium, and at Many Farms on a home treatment basis by the Cornell-New York Hospital team.

THE NAVAJO-CORNELL FIELD HEALTH PROJECT*

(Report prepared by Drs. McDermott, Deuschle and Adair.)

A brief description of the Navajo-Cornell Field Health Research Project was presented in the previous volume of the Navajo Yearbook. The purposes of this project are: first, to define the proper concerns of a health program among a people such as the Navajo; and second, to attempt to devise practicable means for the delivery of the necessary health services in a form acceptable to the people. The results of the research are reported continually to the Public Health Service officials and to the Tribal leaders for their use in the over-all Navajo medical program.

The basic support for this field health research project comes from the Division of Indian Health of the U. S. Public Health Service by contractual arrangement with the Cornell University Medical College, and the project is conducted by the Department of Public Health and Preventive Medicine of the Medical College. Additional funds for the support of the project are provided by research grants from the Navajo Tribal Council, the Russell Sage Foundation, the Max Fleishmann Foundation, and the National Institutes of Health of the U. S. Public Health Service. Generous gifts of valuable commodities or equipment have been made by private industry including The Charles Pfizer Company of Brooklyn; the E. R. Squibb Division of Olin-Mathieson of New York; the Hyland Laboratories of Los Angeles; and the Santa Fe Railroad. The project thus represents a collaborative effort on the part of the Tribe, a university, the Federal government, private foundations, and private industry.

The Many Farms-Rough Rock area was chosen for the first stages of the research project after a careful survey of a number of Reservation communities with the help of Navajo Tribal leaders, Navajo community leaders and the Public Health Service Sub-area Staff. This area which is in Arizona extends 33 miles in its greatest East-West diameter and 30 miles North-South along the Chinle Valley in the central part of the Navajo territory. Approximately 2,000 persons reside within the area and its four schools include a trailer school, a day school, a boarding school and a mission school.

Between July 1, 1955, and May 1956, the essential work of constructing and organizing the Project facilities, staff, and training programs was undertaken. In this period, a 72 by 32 foot central clinic faciliy was constructed* and twelve trailers for the staff were brought in and installed by the Public Health Service. The basic staff of twelve persons was selected and the training of the sub-professional staff members was begun. Throughout all of this

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*Conducted by the Department o Public Health and Preventive Medicine, Cornell University Medical College, New York City. The responsible investigators are: Walsh McDermott, Livingston Farrand Professor and Chairman, Department of Public Health and Preventive Medicine; Kurt Deuschle, Assistant Professor of Public Health and Preventive Medicine; and John Adair, Assistant Professor of Social Anthropology in Public Health and Preventive Medicine.

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*In May 1957, the Navajo Tribal Council made a supplemental grant of $10,000 to Cornell University for much needed expansion of this central clinical facility.

"tooling up" period, numerous meetings were held with the community through the Many Farms-Rough Rock Chapter organization. In these meetings the objectives and the overall design of the research project were repeatedly presented to the people, newly acquired staff members were introduced and gave brief talks, and the progress in the development of the physical plant was periodically inspected.

Moreover, when the professional staff decided that the project was sufficiently organized to commence the examination and care of patients, that fact was reported to the community leaders who then assumed complete responsibility for the organization and conduct of the opening ceremonies. An essential feature of the official opening on May 8, 1956, was a Navajo religious ceremony performed by two highly respected Medicine Men of the community.

The staff in residence at the project consists of sixteen persons, ten of whom are members of the Navajo Tribe. The resident professional staff consists of three physicians (one of whom is only part time), two public health nurses, and a social anthropologist. The subprofessional staff includes: the Navajo head of the Health Visitor Training Program and four Health Visitor trainees; a Navajo laboratory and X-ray technician; and clinical and maintenance staff. The workload of the two Public Health Nurses is partially shared by faculty members from the Cornell University-New York Hospital Nursing School who make regularly scheduled four to six week visits to the project.

As a great deal of the research has to do with the development or modification of methods and technics for the delivery of health services, the Project performs a complete service function while carrying on the scientific investigations. The research program itself can be conveniently divided into three general projects and a considerably larger number of individual "segmental" studies directed toward specific isolated questions.

The three general studies consist of a "survey in depth" of the health status of the community; the Navajo Health Visitor Program; and an investigation of the impact of the project on the community.

The "survey-in-depth" consists of performing careful clinical and laboratory diagnostic studies on as many members of the community as is possible either in the course of the management of some specific illness or as a "health measure" in persons who consider themselves to be free of illness. To date, except for the school health program, only persons in the former category, i. e. those who have sought medical aid, have been examined in this survey. During the first year of the research project, 1750 persons have been examined and received treatment. As more than 85% of these people were residents of the research area, precise medical data are now available for considerably more than one-half of the project community. In addition

The Many Farms Clinic represents a cooperative effort on the part of Cornell University Medical College, New York Hospital and the U. S. Public Health Service to determine the health needs of the Navajo people and devise effective means for delivering required services throughout the Reservation area.

Enthusiastically supported by the Many Farms community and the Tribal Council . . .

The facility provides a wide variety of health services, including an out-patient clinic.

to the 1750 individual people who received initial examinations, there were some 6,000 re-visits to the clinic durng the year. It is of interest to note that only about one of each one hundred patients examined, had to be referred to a hospital facility for further diagnosis and treatment. Final analysis of the data from these examinations has not yet been completed but from preliminary examination it appears that no particular surprises are to be anticipated. The major disease problems among the Navajo appear to be the diarrheal diseases, particularly in infancy: tuberculosis, and the respiratory infections including sore throat (pharyngitis, tonsillitis), acute and chronic ear infections, and pneumonia.

The second of the general research projects—the Health Visitor Program—is concerned with determining: the technical level to which Navajo men and women with only primary or secondary school education can be trained to serve as competent adjutants of the public health nurses in the field and in the clinic; the roles in which the trainees will be accepted in the Navajo home; and the number of such deputies which can be effectively supervised in the field by one public health nurse.

The first "class" of Health Visitor trainees consist of two men and two women. They are receiving intensive instruction in the elementary concepts of modern medicine and training in the transmission of these concepts in the Navajo and English languages. They have all become skillful in the common medical and nursing technical procedures such as the initial history-taking and the administration of treatment including intramuscular injections with aseptic technic. They have all been trained to drive an automobile and these vehicles will shortly be equipped with radio-telephones. In this way, all of their activities in the field, as in the clinic, can be constantly supervised by a public health nurse. If the Health Visitor Program proves ultimately successful, as presently appears to be the case—it should be possible to multiply by three—to five-fold the number of families adequately served by one public health nurse in the field.

The third general research program has to do with the impact of the field health research project itself upon the community. The Navajo is changing in his behavior to traditional medicine and to the reception of modern medical treatment. It is of the utmost importance that the nature of this change, with its many subtleties, be undersood by those engaged in a field health program. Moreover, as the traditional Medicine Man is such an important part of the fabric of Navajo society, it is essential that in the transfer of some of his responsibilities to the physician, his role in comforting the spirit of the people be not reduced or destroyed. By the same token, the central principles of good modern medicine must not be compromised although certain of its non-essential habits and practices can doubtless be modified with profit. Whether these two goals are so inherently contradictory as to be unattainable, even with the greatest of good faith on both sides, cannot be predicted at present and hence remains a most legitimate object of research.

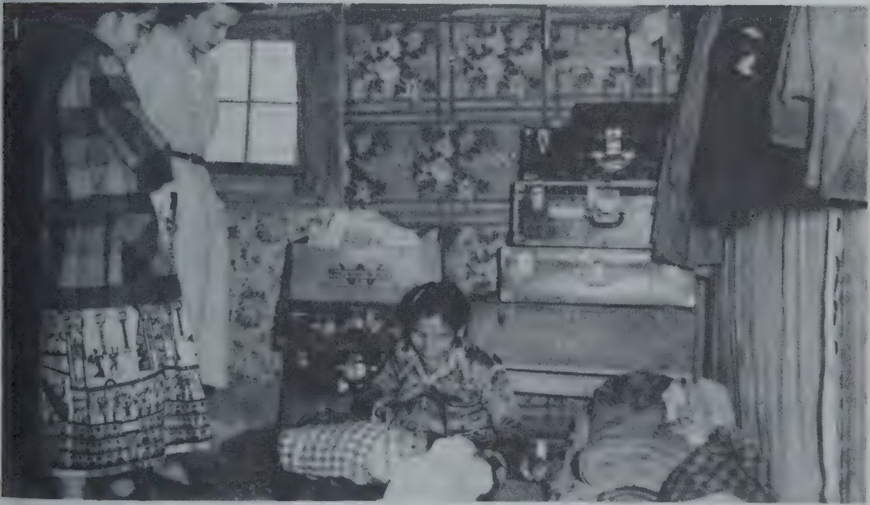
These studies are being carried on by the behavioral scientists on the staff working together with the physicians, the nurses, and the sub-professional staff members. The Medicine Men in the community, various leaders, and the families in a selected number of representative camps are interviewed periodically and are consulted as a group in numerous community meetings. In addition, a Health Committee for the Many Farms-Rough Rock area was organized by the people and meets regularly with the Project Staff.

One important aspect of these studies is an attempt to determine the existence of segments of the community who are uninterested or unreceptive to modern medical care. Thus far no such segments have been detected and the "non-users" of the facilities when interviewed have amiably asserted that they have been in good health and have had no particular reason to seek medical care. During April, May, and June of 1957, a concerted program of home visits was carried out to induce asymptomatic family contacts of persons infected with tubercle bacilli to come into the clinic for certain appropriate tests. In many cases, the trip for the tests represented a considerable personal effort by a person who believed himself to be in perfectly good health. The behavioral science evaluation of the success of this program is still in active progress. It is the general impression of the clinical staff at present that the final analysis will reveal that there were relatively few active or passive refusals and indeed that the response was considerably better than usually occurs in such programs in our urban centers.

In addition to the three general research projects outlined above, a number of "segmental" research projects concerned with some particular question are in progress. These include: a study of the treatment and prevention of infant diarrhea by the use of medication in the home; the treatment of pulmonary tuberculosis by drug treatment in the home; an attempt to prevent the later development of tuberculosis (i. e. tuberculosis disease) among the school children already infected with tubercle bacilli, by the administration of the drug isoniazid in the home; the comparative values of a community-wide survey versus the examination of household contacts of infected school children, as case-finding methods in tuberculosis; the prevalence of streptoccal infection in the four schools and its year-round control by penicillin prophylaxis; determination of the extent of the deafness problem, particularly in school children by field studies with a portable audiometer; and the prevalence of electrocardiographic evidences of coronary arterial disease among Navajo men and women over the age of 40.

Approximately 100 persons (mostly infants) with acute diarrhea were successfully treated during the summer season of 1956 and the drug-prevention program was started in a few camps. It is planned to expand the latter aspect of the program during the 1957 "summer diarrhea" season.

Members of the Clinic staff make regular home visits . . .



To Navajo families residing in a wide area around Many Farms.

Studies, carried on in the Many Farms laboratory and at the Medical College in New York City, indicate that a principal cause of the diarrhea is the microbe of bacillary dysentery (Shigella). This microbe is extraordinarily susceptible to certain drugs and can even be successfully eliminated from persons "carrying" it in the absence of obvious disease by drug treatment of only two or three days duration.

In the tuberculosis program it was found that 30% of the 250 young children in the four schools of the Project area were infected with tubercle bacilli as determined by the tuberculin skin reaction. In comparable age groups of U. S. children outside the Navajo Reservation, the prevalence of infection is less than 3%.

At the present time there are approximately 150 Navajo patients receiving anti-tuberculosis chemotherapy (isoniazid) in their homes. Approximately 100 of these 150 ambulatory patients are children receiving isoniazid in the "preventive" program. In order to carry on the tuberculosis treatment program, the nurse-health visitor team have had an ever increasing number of hogan visits. In May 1957, for example, there were 79 hogan visits made primarily for this program.

One of the segmental programs undertaken by the social anthropologists has been to work with the nursing staff on the establishment of medical records which would accurately reflect the composition of the community served by the clinic.

While many clinics simply record the patient by name and an assigned number, the social scientists and the chief public health nurse believed that it was essential to record each patient's alternate names, (by which he might be known to the trader or governmental officials), his census number, his clan, the head of his family group, and the location of the camp (consisting of several family units) where he resided. Such information is demanding of clerical time, but essential in tracing contagious disease and mapping a preventive health program. Moreover, the "camp-file" system has already proved itself to be remarkably effective in minimizing the instances in which the same patient is recorded as two separate persons because of a confusion in names.

The anthropologists have also been making a complete census of the community and are working on a system for the recording of all births and deaths among the population.

The behavioral and the medical scientists are also making a study of "medical interpretation." This work is being done in collaboration with Mr. Robert Young and Mr. "Chick" Sandoval of the Bureau of Indian Affairs. The problem of physician-patient communication with Navajo people is a formidable one, not so much because of the wide differences between the Navajo and the English languages, but because there are such wide differences between the two cultures with respect to their concepts of bodily disease. If both cultures contained essentially the same concepts of disease and its treatment, any person reasonably fluent in both languages could serve as a satisfactory "bridge" between the patient and his physician. As it stands, however, with the wide difference in medical concepts, an interpreter may be completely bilingual in discussing the ordinary affairs of life, but will be wholly unreliable in medical matters unless he is quite generally familiar with the medical concepts of both cultures.

To be sure, this same principle applies to a degree to cross-cultural communication with respect to technologies other than medicine. But in most other technologies, e. g. animal husbandry, agriculture, formal education, the two people involved in the attempt at communication are both usually concerned with "the world around them" and not with the inner feelings of one. By contrast, for the proper application of modern medicine the physician depends to a very considerable extent (with some diseases, exclusively) on the subtleties and minor gradations in the patient's own description of how he feels in comparison with his usual state. It is for this reason that this fundamental problem in Navajo public health cannot be solved by setting up a general "school for interpreters." Instead, a considerable body of information must be obtained on the medical concepts of the two cultures and how they can be transmitted back and forth with understanding. As this is done, it will be necessary to teach this rather considerable body of medical knowledge to the persons who are to serve as interpreters if they and the physician are to function effectively.

* * *

The various research projects listed are to be continued during the forthcoming year and the Public Health Nurse-Health Visitor Program in particular, will be expanded to the limits of the available housing. In addition, an organized study will be made of the proper role of Field Health Stations (i. e. a facility not in daily operation) as a type of satellite facility to broaden the area of service of a single Field Clinic. The point of departure for this study will be the weekly well baby "preventive" gathering which has been well attended throughout the past year at Rough Rock.

3. AGENCY, INSTITUTIONAL AND DOMESTIC WATER SUPPLY

In the great, semi-arid area of the Navajo Country, there are few streams, springs and other natural sources of water supply. As a result, the construction of school, health, and other facilities on the Reservation must include the development of water supply. In view of the fact that wells range from 100 to 1,900 feet, with an average depth of about 650 feet, coupled with isolation and difficulty of transporting drilling equipment to drilling sites, the average well costs about $10,000 complete with pumping and storage facilities, and including cost of U. S. Geologic Surveys, studies and recommendations.

In addition to water requirements for schools, health centers and other institutional uses, there is also a need for the development of domestic water supply to serve the Navajo people. Wells drilled to serve the schools also serve the needs of surrounding Reservation residents, and the Tribe itself has appropriated $1,509,000 over the course of the past 6 years to drill wells for the use of Navajo communities in watering stock and providing domestic supply. However, about 500 drilled wells, Federal, Tribal and private, exclusive of dug wells and springs, which are not always reliable, distributed over an area of approximately 24,000 square miles, still obliges Navajo families to haul water from great distances for home use or to drive stock many miles to water. It still means an average of only one reliable source of water in about every 34 square miles of the Navajo Country if we include trading posts, dug wells and similar sources of water supply. Many Navajo families utilize surface water for home use, a practice which contributes to disease, especially during the summer months.

The Long Range Act authorized the appropriation of $2,500,000 for well drilling purposes to meet Agency, Institutional and Domestic requirements. Appropriations to date under this authorization are summarized herewith below:

Fiscal Year	**Annual Appropriation**
1951-1956	$1,028,200
1957	50,000
TOTAL	$1,078,200

Well drilling projects completed in fiscal year 1957 are summarized as follows:

1. Indian Wells, Borregos Pass, Dilkon	$14,000
2. Hotevilla (Navajo and Hopi)	$22,100
3. Red Lake, White Cone	$11,650
4. Canyoncito	$ 2,700
5. Pinon, Lukachukai, Window Rock (rehabilitation of existing wells)	$ 3,500
6. Funds transferred to U. S. G. S.	$10,000
TOTAL	$63,950[1]

4. IRRIGATION PROJECTS

Irrigation farming on the Navajo Reservation began in 1893 with the completion of a small flume and ditch system at Fort Defiance, and in succeeding years a continuing effort toward the fuller development of this resource resulted in the completion of about 67 projects ranging in size from a few acres to several thousand. Of these, the largest is the Hogback

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(1) Includes $13,950 carried over from previous allocations of funds.

Project on the San Juan River near Shiprock, New Mexico, comprising over 9,000 acres of irrigated land, and planned for an ultimate acreage of about 15,320 acres.

Many of the early irrigation structures, utilizing logs, brush and other temporary materials, have worn out, and it has become necessary to make extensive repairs.

The agricultural resources of the Navajo Country have increased steadily over the years as new farmland has been developed, but it will receive its greatest stimulus with the completion of the proposed Navajo Project in future years.

The Long Range Act authorized the appropriation of $9,000,000 over a 10-year period for the reconstruction, enlargement and improvement of existing Reservation irrigation projects, to increase irrigable acreages from 33,000 to 58,000 acres, and for studies and surveys necessary to the development of the larger Navajo Project.

Long Range allocations to date for irrigation development purposes are summarized below for fiscal years 1951-57, inclusive:

Authorized	$9,000,000
Allocated 1951-56, incl.	3,332,275
Allocated 1957	525,500
Total allocated to date	$3,857,775

The 1957 fiscal year appropriation was utilized for the following purposes, all in connection with the Hogback Project:

1. Construction of 2.2 miles of main canal, including the Salt Creek Wash siphon, completed under contract on July 16, 1956 at a cost of $166,552.95.

2. Construction of one mile of canal, revision and enlargement of the headworks, and building of a concrete lined silt distribution basin, completed under contract on April 29, 1957, at a cost of $297,078.81.

3. Rehabilitation and repair to the rock fill on the Hogback diversion dam, completed by Government forces on March 1, 1957, at a cost of $25,000.

4. On the Helium Unit additional land leveling and stabilization of canals and laterals was carried out by Government forces with expenditure of $55,000 to November 1, 1956, at which time the work was stopped. It will resume in fiscal year 1958.

THE NAVAJO PROJECT

The Navajo Tribe has looked long and hopefully to the development of a large area of irrigated farmland in the Shiprock area, and in 1945 the first field surveys for development of such a project were begun. The Preliminary Report was issued in 1951, based on data developed with allocations of Long Range Program funds.

In January, 1955, the Feasibility Report was completed and submitted to the several interested agencies of the Department of the Interior for review, after which it was submitted, in revised form, to the Secretary of the Interior, along with a comparable report covering the San Juan-Chama Diversion proposal.

The proposed area to be served by the Navajo Project includes 137,500 acres, of which 111,500 lie within the Shiprock Division, and within the boundaries of the Navajo Reservation. This acreage would be divided into 1200 farm units ranging from 90-105 acres each, depending on the quality of the land involved.

The Navajo Project was included as a participating project in Senate Bill 500, entitled "To Authorize the Secretary of the Interior to Construct, Operate and Maintain the Colorado River Storage Project and Participating Projects," a Bill which was passed by the 84th Congress, First Session. In its final form, the Senate version of the Bill conditionally authorized the Navajo Project, pending submission to Congress of a feasibility report. A similar Bill was introduced in the House of Representatives (H.R. 3383), but no final action was taken. The House version of the proposed legislation included the Navajo Project, but did not include the Navajo Dam and Reservoir.

On April 11, 1956, Public Law 485 (70 Stat. 105) was enacted "To Authorize the Secretary of the Interior to Construct, Operate and Maintain the Colorado River Storage Project and Participating Projects, and For Other Purposes." This Act authorized construction of Navajo Dam and Reservoir, to provide necessary irrigation water, but did not provide for the construction of the Navajo Irrigation Project. However, Section 2 of the Act directed the Secretary of the Interior to give priority to the completion of planning reports on certain projects, including the Navajo.

Section 6 of the Act provided, among other things, that "In the event that the Navajo participating project is authorized, the costs allocated to irrigation of Indian-owned tribal or restricted lands within, under or served by such project and beyond the capability of such lands to repay, shall be determined, and in recognition of the fact that assistance to the Navajo Indians is the responsibility of the entire Nation, such costs shall be non-reimbursable."

During October, 1955, the New Mexico State Engineer and representatives of the Interstate Streams Commission met with representatives of the Navajo Tribe and the Bureau of Indian Affairs, at which time the State of New Mexico proposed that the Navajo Project be constructed for the sole use of the Navajo Indians, and that it include lands located in both the Shiprock and in the South San Juan Divisions. This proposal extended only to the State, Federal and Indian allotted lands lying within the San Juan Division, and no provision was to be made for service to the privately owned lands located under the main gravity canal. The State imposed only the limitation that the gross project area must not exceed 115,000 acres.

This proposal would permit consolidation of the irrigation development area, with elimination of "islands" of developed land surrounded or bordered by areas of land which cannot economically be placed in production. Such consolidation would reduce costs, both for initial subjugation and for future maintenance, without detracting from the benefits to the Tribe. Surveys and studies have begun for the purpose of determining the changed costs involved in consolidation of the irrigated land area.

Consolidation of the irrigated land area would involve the exchange of certain State and Federal lands in the South San Juan Division for an equal acreage of lands lying inside the Navajo Reservation, along its eastern boundary and adjacent to other State and Federal lands. The Navajo Tribe would prefer to purchase the State and Federal land required for consolidation purposes, and request the Congress to place it in trust status, and would also like to purchase privately owned lands that could be served by the canal system. Negotiations for necessary land purchase are already underway.

On November 26, 1956, the New Mexico Interstate Stream Commission adopted a resolution requesting the Secretary of the Interior to revise the Feasibility Reports on the Navajo and the San Juan-Chama diversion Projects, using the study size determined in 1953 but with the understanding that the Navajo Irrigation Project will not be authorized to exceed 115,000 acres, and that the initial phase of the San Juan-Chama diversion will not exceed 110,000 acre feet of water per annum. The Governor of the State of New Mexico transmitted this resolution to the Secretary of the Interior on December 12, 1956, amplifying the policy of the State of New Mexico as follows: "However, the conferees agreed and it is the desire of the State of New Mexico that the final planning of the Navajo Project effect the following changes in that report (i. e. the Feasibility Report of March, 1955)—the lands developed should be solely for Indian use, should include the most suitable lands in the Shiprock and South San Juan Divisions, and should not exceed 115,000 acres with a diversion requirement of not to exceed 508,000 acre feet per annum."

In March, 1957, a supplemental report to the Navajo Irrigation Project Feasibility Report of March, 1955, was prepared and submitted to the Commissioner. The studies underlying this supplemental report indicated a reduction of one third in the project construction costs and the benefit-cost ratio increased to 1.4 to 1.

During fiscal year 1957 final main canal surveys were begun for the main gravity canal, a necessary prerequisite to the development of a Definite Plan Report. These surveys will continue throughout fiscal year 1958.

The following allocations of Long Range funds have been made by year since fiscal year 1951 for Engineering Plans and Surveys in connection with the proposed Navajo Project:

1951	$150,000	1954	$ 75,000
1952	15,000	1955	50,300
1953	60,000	1956	60,000
		1957	50,000
Total			$460,300

Regular Appropriations. A total of $205,193 of regular appropriations was made available for operation and maintenance purposes in 1957. This aspect of the program involves the distribution of irrigation water, the maintenance of canals and laterals, the replacement of worn out structures and the training of Navajo water-users. In addition to Federal funds, the Navajo Tribe provided $7,500 for each of fiscal years 1956 and 1957 to defray the cost of maintaining the small miscellaneous irrigation projects.

5. ROADS AND TRAILS CONSTRUCTION

The Navajo country is a vast area of semi-arid grazing and agricultural lands and, like neighboring areas outside the Reservation boundaries, it is sparsely populated. As a result, pressure for road construction to facilitate Reservation travel has been relatively light until recent years.

Following World War II, and especially in connection with the planning that led to the enactment of the Long Range Program, the urgent need for an adequate road system on the Navajo Reservation became apparent. It was not only necessary in the interest of opening the area to mineral and industrial development, but to the health and education programs as well.

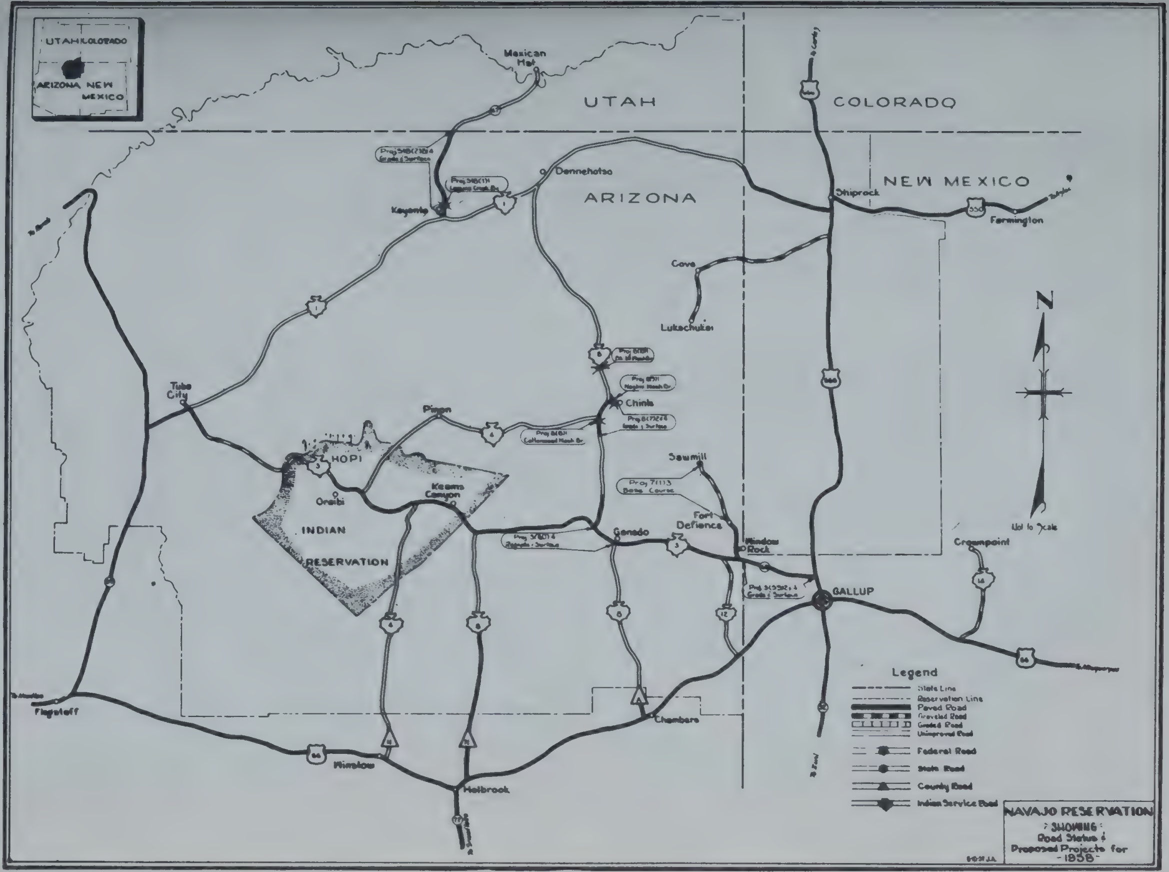
The Long Range Act authorized the appropriation of $20,000,000 over a 10-year period for the construction of 636 miles of primary and 633 miles of secondary roads throughout the reservation area.

The Long Range road building program was developed in close consultation with the Navajo Tribe, and first priority was assigned to Route 3. The latter is the main highway traversing the Reservation from Tuba City on the west to the New Mexico State Line near Window Rock on the east, and work has progressed on this all-weather road since the inception of the Long Range Program.

Funds allocated for highway construction are summarized below.

Fiscal Year	Amount Allocated
1951-1956	$7,007,967
1957	1,618,941
TOTAL	$8,626,908

The status of the road building program to June 30, 1957, is herewith provided in summary form:


NAVAJO RESERVATION
: SHOWING :
Road Status &
Proposed Projects for
-1938-
Legend
State Line
Reservation Line
Paved Road
Graveled Road
Graded Road
Unimproved Road
Federal Road
State Road
County Road
Indian Service Road
UTAH
COLORADO
ARIZONA
NEW MEXICO
UTAH COLORADO
ARIZONA NEW MEXICO
Mexican Hat
Kayenta
Dennehotso
Shiprock
Farmington
Cove
Lukachukai
Chinle
Tuba City
Pinon
HOPI
Oraibi
Keams Canyon
INDIAN
RESERVATION
Ganado
Sawmill
Fort Defiance
Window Rock
GALLUP
Crownpoint
Chambers
Holbrook
Winslow
Flagstaff
Proj. 7(1)3
Base Course
Grade & Surface
N
Not to Scale
6-10-37 J.A.

STATUS OF WORK TO JUNE 30, 1957 (Navajo)

	Miles Grade Const.	Miles Base or Gravel Surface	Miles Bit. Surface	Lin. Ft. of Bridge
ROUTE 3:				
Tuba City to New Mexico State Line Near Window Rock	107.358	106.768	61.036	772
Total Route 3	107.358	106.768	61.036	772
ROUTE 1:				
Tuba City to Shiprock	33.383	33,383	11.574	517
Total Route 1	33.383	33.383	11.574	517
OTHER PRIMARY ROUTES:				
Route 12— Window Rock to Ft. Defiance	6.662	6.662	6.662	296
Route 8—Jctn. Route 3 north toward Chinle	7.925	7.925	4.0	—
Total Other Primary	14.587	14.587	10.662	296
SECONDARY ROUTES:				
Hunters' Point	4.506	4.506	—	127
Total Secondary	4.506	4.506	—	127
ACCESS ROADS:				
Cove Road	45.0*	41.0*		
Mexican Water	30.0			
Monument Valley	19.0	19.0		
Lukachukai Saddle	8.0	8.0		
Total Access	102.0*	68.0*		
Totals	261.834	227.244	83.272	1,712
Completed on Long Range	194.834	194.244	83.272	1,712

Funds allocated for the highway program in fiscal year 1957 were expended principally for continued work on Route 3, including grading, drainage and surfacing of an 11.4 mile section of road from Tuba City to Coalmine Mesa, construction of a bridge over Ganado Wash, and the widening of a bridge spanning Fish Wash. In addition, work is under way on a new bridge crossing the Chinle Wash 75 miles west of Shiprock, New Mexico. These projects were carried out under contract with private road construction companies.

An 8 mile section of Route 8 from its junction with Route 3 northeastward toward Chinle is in the process of stabilization with bituminous base. This project is being completed by the Bureau of Indian Affairs under "force account."

In addition to regular construction on Reservation highways it has been necessary to build airstrips to serve the isolated schools at Aneth, Pueblo Pintado and Torreon, improve the existing airstrips at Navajo Mountain, Low Mountain and Teec Nos Pos, and improve some of the roads providing

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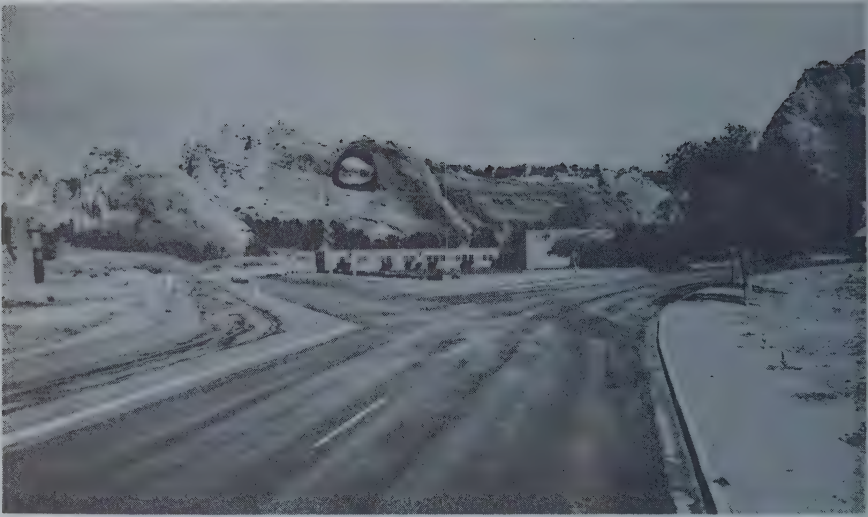
*Includes 35.0 miles on Long Range Secondary System.

The new Fish Wash bridge on Route 3 nears completion.



The paving of the streets at Window Rock, seat of the Navajo Agency and the Navajo Tribal government,

And the improvement of many miles of school access road, are among the recent accomplishments of the Navajo Agency Branch of Roads.

Photo by James Bosch

access by bus and truck to Reservation schools or access to mining operations.

On Route 1 joining Shiprock, New Mexico with Kayenta and Tuba City, Arizona, the Bureau of Indian Affairs has completed 21.8 miles of highway which has been turned over to the State of New Mexico, under the terms of an agreement, for bituminous surfacing and future maintenance.

The demands of the Reservation mining industry have been instrumental in expending the construction of 72 miles of gravel surfaced road, of which 35 miles were within the proposed Long Range Program road system. Construction funds in this connection were provided by the Atomic Energy Commission, certified through the Bureau of Public Roads.

NAVAJO RESERVATION ROAD MAINTENANCE PROGRAM

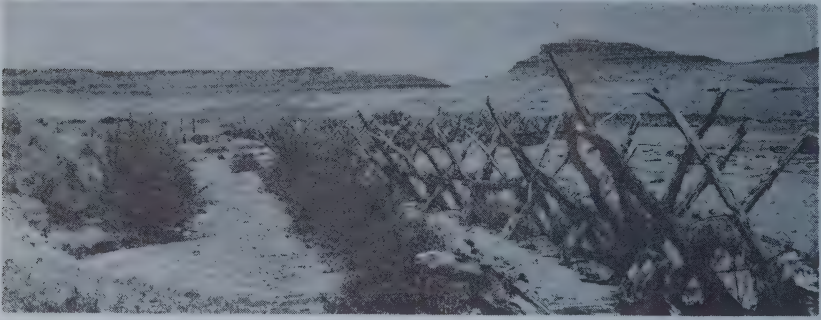
Many Reservation roads, especially those in the secondary system and those providing access to isolated schools, are cheaply constructed, difficult and expensive to maintain in passable condition. In fiscal year 1957 a total of $274,938 was allocated from regular appropriations to maintain 2,156 miles of Reservation roads, of which 1,184.3 miles lie within the primary system, and the remainder represents secondary roads. The maintenance funds provided allow approximately $127 per mile for maintenance purposes, an allowance which stands in sharp contrast with the $300-$400 per mile allowed by the States for secondary roads and the $500 per mile for primary roads situated outside the Reservation boundaries.

The inadequacy of available maintenance funds is reflected in the many miles of poor roadway that connect Reservation schools, hospitals and communities, as well as in the high costs of construction in connection with health and educational facilities. An adequate road system is essential to the human and natural resources development envisaged in the Long Range Act, and the attainment of Long Range goals is seriously hampered by the primitive system of trails that still form the only surface transportation linkage between Reservation installations and between Reservation points and outside communities.

6. SOIL AND MOISTURE CONSERVATION AND RANGE IMPROVEMENT WORK

During the period 1935-36, technicians of the Section of Conservation Economics of the Soil Conservation Service carried out an exhaustive study, known as the Human Dependency Survey, on the Navajo Reservation. The Survey was an aspect of the broadened effort begun during the 1930's by the Department of the Interior toward the conservation of national resources, and was conducted for the purpose of developing basic information with

Streambank erosion with its wastage of agricultural and grazing land . . .



Is halted by the construction of jetties . . .

And the planting of vegetation to reverse the process and refill the eroded area.

regard to the use of Reservation land for agriculture and grazing, capacities of the land resource, and the economy of the Navajo people.

For many years prior to the 1930's the Reservation range had been subjected to abuse in the form of over-grazing; a result inherent in the concentrated use of the Reservation range by a growing population, heavily dependent on stock raising for a livelihood and unable to expand its land base commensurately with the increasing need for new range. As early as 1893[1] Navajo Agents began to call the attention of the Department of the Interior to the deterioration of the Reservation range and the need for additional grazing lands and, although the Reservation was subsequently extended many times, the addition of the new lands accomplished little toward solution of the problems of over-crowding and over-use; actually, the Executive Order extensions and Acts of Congress through which the inadequate 3,500,000 acre Treaty Reservation grew, merely recognized the rights of occupancy of Navajo families already living on the areas involved.

By the 1920's the necessity for immediate corrective action to halt the rapid deterioration of the Reservation land resource could no longer be ignored and, in 1928 E. B. Merrit, Assistant Commissioner of Indian Affairs, addressed a meeting of Navajo leaders at Leupp, Arizona, in the interest of "eventually limiting the number of sheep, horses, goats and cattle for any one Indian so that benefits of the range may be more equitably distributed among all Navajo Indians."

The Leupp meeting was a forerunner of the livestock reduction program which began in the mid 1930's, and during the period 1934-1943 a campaign was conducted to eliminate non-productive stock from the range and halt soil erosion and range deterioration by reducing the livestock population to the actual carrying capacity of the grazing lands. Concurrently with the initial phases of stock reduction, the Human Dependency Survey was carried out, cataloging the agricultural and grazing resources of the Navajo Reservation, and providing the first insight into Navajo economy, land capabilities and the pattern of land use.

On the basis of the information gathered by the Survey, the Navajo Special Grazing Regulations were drafted and promulgated by the Secretary of the Interior in 1937 and, in 1940, the first grazing permits were issued to Navajo stockmen on the Reservation. The Reservation was divided into 18 Land Management Units, including the Hopi area, and these geographic

(1) In a letter of December 29, 1893, Lt. Plummer, the Navajo Agent advised the Commissioner of Indian Affairs that "their (the Navajo) grazing lands are in very poor condition and complaints are continually made about their trespasses on the lands off the reservation with their flocks." Interested in settlement of the public domain by non-Indian homesteaders and in the sale of railroad lands to non-Indians, the territories and the railroad insisted that Navajos be kept within the Reservation boundaries. In the letter identified above, Agent Plummer observes that "Every session of the Legislature of Arizona passes resolutions urging that the Navajos be kept on the Reservation." A year later, under date of January 3, 1894, Lt. Plummer wrote to the effect that "The Reservation is not large enough or in condition to support the herds of the Navajos and this has been made the subject of several reports by me."

subdivisions of the Reservation became the Land Management Districts formally recognized in the Special Grazing Regulations.

Through controlled grazing and soil conservation practices the Federal Government embarked upon a program for the halting of erosion, the proper use of Reservation resources, and the diversification of Navajo economy.

Since the 1930's, Navajo economy has undergone radical changes, and although stock raising no longer occupies a position of first importance as the sole source of livelihood of a major part of the population, it is still important as a source of supplemental income for many Navajos, and grazing remains the principal use of the greater part of the Reservation. At present about 8,000 permittees own 512,321 sheep units of stock[2] within the Reservation, although the carrying capacity, as established in 1943, is only 512,000 sheep units, and a minimum of 250 units is required to support an average family at a minimum living standard. The drouth of the past seven years has reduced the carrying capacity of Reservation rangeland, especially in the lower elevations. In fact, to prevent the starvation of Navajo subsistance herds during the winter of 1956-57, the Department of Agriculture provided Navajo stockmen 1,648 carloads of feed grain valued at $3,460,800, exclusive of freight charges totalling approximately $988,800. In addition, the Navajo Tribe appropriated $1,200,000 of Tribal funds to unload, store and distribute the emergency feed grain. ~~All~~ in all, the Navajo Emergency Feed Grain Program cost $5,649,600, but the investment was no doubt instrumental in reducing welfare requirements in drouth stricken areas of the Reservation, among Navajo families who remain heavily dependent on subsistence herds for a livelihood.

The Long Range Act authorized the appropriation of $10,000,000 over a 10-year period for continued soil and water conservation and range improvement work on the Navajo Reservation, to restore and maintain the highest possible production on grazing and agricultural lands. At the close of fiscal year 1957 a little less than half the authorized total had been appropriated, as indicated in the summary below:

Fiscal Year	**Long Range Appropriation**	**Regular Appropriation**	**Total Annual Appropriation**
1951-56 Incl.	$3,263,430	$2,644,200	$5,907,630
1957	707,540	412,081	1,119,621
TOTALS	$3,970,970	$3,056,281	$7,027,251

The program of Soil and Moisture Conservation and Range Improvement is administered by the Branch of Land Operations, organized at both an Agency Headquarters and a Subagency level. Work accomplished for the report period closing June 30, 1957, is summarized herewith under the activity headings involved.

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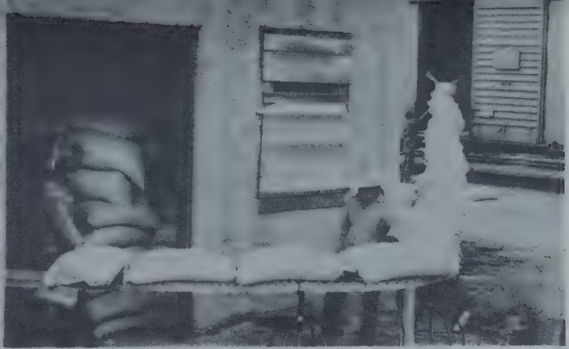
(2) Voluntary 1956 livestock count.

Grain is received at the railhead,—



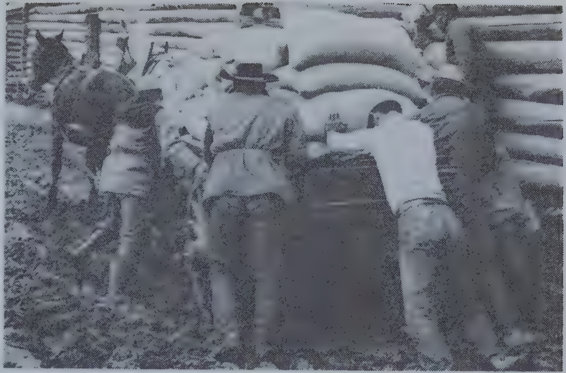
Unloaded and stored in temporary warehousing,—

THE NAVAJO EMERGENCY FEED GRAIN DISTRIBUTION PROGRAM

Trucked to remote areas of the Reservation,—

And unloaded in local warehouses,—
Photo by James Bosch

Or piled in a well-drained location.



Navajo stockmen receive their quotas,—

THE NAVAJO EMERGENCY FEED GRAIN DISTRIBUTION PROGRAM

And feed it to the subsistence herds of sheep upon which—

They and their families depend for all or part of their livelihood.
Photo by James Bosch

The control of soil erosion is an endless struggle . . .

Between man and the elements in the Navajo Country.

The Soil Conservation Program: The primary objectives of the Soil Conservation program on the Navajo Reservation are to control erosion, save or restore the soil and increase the productivity of agricultural and grazing resources. The total program involves soil and other surveys, land classification, education, land levelling, construction of dykes, jetties, diversion dams, water spreaders, ponds and charcos, contour plowing, tree planting, brush eradication, seeding, etc.

In carrying out the program the Branch of Land Operations provides technical and material assistance in a cooperative effort involving the Navajo Tribe, the Navajo land users, and the Agricultural Conservation and Stabilization Service.

In the past year, $87,000 in Tribal funds was made available by the Navajo Tribal Council for soil conservation work. During the same period $200,000 was contributed by the Agricultural Conservation and Stabilization Service, and the Navajo land users themselves contributed labor and materials to a value of $1,146,656. To the foregoing, the Federal Government contributed a total of $748,000 through the Bureau of Indian Affairs as outlined below in summary form:

Fiscal Year	Long Range Appropriation	Regular Appropriation	Total Annual Appropriation
1951-56, Incl.	$2,220,870	$1,135,600	$3,356,470
1957	542,300	205,700	748,000
TOTALS	$2,763,170	$1,341,300	$4,104,470

During the course of the 1957 fiscal year, emphasis continued on the eradication of juniper and sagebrush as a major phase of the range improvement program. In connection with the same program, emphasis was placed on small watershed flood protection, in conformity with Tribal and Departmental policy as established in the recently adopted Tribal Grazing Regulations. 106 detention type dams with controled outlets were built during the 1957 fiscal year, and water was thus spread over 24,284 acres of grazing land, of which 3,775 acres were pitted and reseeded to desirable forage.

Range Water Supply: For many years the urgent need for water development in the Navajo country has been recognized, especially in its relationship to the proper use and management of Reservation grazing resources. Thus, in 1930[3] it was pointed out in a study of the Navajo livestock industry that water for sheep and goats should be available every six to eight miles in flat or gently rolling areas, and every two to three miles in broken or mountainous country. At that time, in many parts of the Navajo country, watering places were located twelve or more miles apart, obliging stockmen to frequently drive their herds long distances to water, and making many areas of grazing land inaccessible except for brief periods of each year while forcing the over use of accessible range.

(3) "The Grazing Situation on the Navajo Indian Reservation," a report by Wm. H. Zeh, Forester (1930).

During the period 1930-1950,[4] approximately 70 wells and many semi-permanent watering places were developed at points throughout the Navajo country, but available sources of stock water remained inadequate to meet the need for sound management and sustained yield use of the rangeland. Long Range planning took the requirement for stock water development into consideration and, from allocations of funds appropriated under the $10,000,000 authorization for Soil and Moisture Conservation and Range Improvement Work, a total of $1,042,560 has been expended for range water development to the end of fiscal year 1957. In addition, $1,714,981 of Federally appropriated funds not charged to the Long Range Program and $1,509,000 of Tribally appropriated money has been utilized for the drilling and equipping of 262 wells. These, added to developments completed in prior years brings the total to 542.

Long Range and Regular appropriations allocated for range water development and maintenance since the inception of the Long Range Program in 1951 are summarized below:

FEDERAL FUNDS

Fiscal Year	Long Range	Regular	Total Federal
1951-1956 Incl.	$1,042,560	$1,508,600	$2,551,160
1957	None	206,381	206,381
TOTALS	$1,042,560	$1,714,981	$2,757,541

TRIBAL FUNDS

Fiscal Year	Construction	Maintenance	Total Tribal
1951-55, Incl.	$1,000,000	$ 25,000	$1,025.000
1956-57	250,000	65,000	315,000
1957 Supplemental	169,000	—	169,000
TOTALS	$1,419,000	$ 90,000	$1,509,000

Thus, in toto, during the period fiscal years 1951-1957 $4,266,541 has been invested, by the Federal Government and the Navajo Tribe in well drilling alone, while additional funds have been expended for the development of numerous charcos and other water devices.

All wells are drilled on the basis of recommendations of the U. S. Geological Survey, Branch of Ground Water, and the location of wells is determined, on a priority basis, by the Tribal Resources and Advisory Committees, acting on requests from Navajo communities after careful study of over-all requirements.

The drouth period extending from 1950 to and including the present has lent considerable impetus to the water development program, moving it from a highly desirable to an emergency status in Reservation planning.

The progress of the Navajo Well Drilling Program during the period 1951-1957 inclusive is summarized herewith:

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(4) About 110 wells were constructed during the period 1910-1930.

NAVAJO WELL PROGRAM

District	Drilled by Tribe 1951-56	Drilled by Tribe 1957	Drilled by Government Fiscal Year 1950-56	Drilled by Government Fiscal Year 1957	Programmed For F. Y. '58 Govt.	Programmed For F. Y. '58 Tribe	Total Wells Completed & Programmed 1950-1958
1	3	0	15	0	2	2	22
2	2	0	12	0	0	0	14
3	3	0	18	0	2	1	24
4	3	0	9	0	0	5	17
5	3	1	8	0	1	0	13
7	6	1	14	0	1	2	24
8	1	0	14	0	2	1	18
9	2	1	4	1	0	3	11
10	6	1	8	0	0	1	16
11	2	1	5	1	1	1	11
12	10	3	7	1	0	4	25
13	1	0	3	1	0	2	7
14	3	0	3	0	0	3	9
15	2	0	3	2	0	1	8
16	3	2	5	0	0	4	14
17	12	1	10	0	1	2	26
18	12	2	5	1	0	2	22
19	2	0	3	0	0	0	5
Ramah	6	2	1	0	0	2	11
Canoncito	3	0	2	0	0	1	6
Puertecito	2	1	3	0	0	0	6
TOTALS	87	16	152	7	8-9[5]	32[5]	309[5]

The operation and maintenance, as well as the construction of wells has been a closely coordinated and cooperative program carried on jointly by the Bureau and the Navajo Tribe. The latter has assumed an ever increasing burden of responsibility for operation and maintenance costs and by the close of fiscal year 1958, approximately half of all costs for the upkeep of the 542 wells will be borne by the Tribe. The Tribe, in 1955, assumed responsibility for maintaining 38 wells, for which $25,000 of Tribal funds was budgeted. In 1957, the Tribe maintained 159 wells, at a cost of $40,000 The Operation and Maintenance program is summarized herewith:

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(5) Eight or nine wells will be drilled by the Federal Government and 32 by the Tribe, although 11 locations for the former and 37 for the latter have been approved by the Tribal Resources and Advisory Committees.

OPERATION AND MAINTENANCE

Districa	Fiscal Year 1957 By Agency	Fiscal Year 1957 By Tribe	Fiscal Year 1957 Total	Fiscal Year 1958 By Agency	Fiscal Year 1958 By Tribe	Fiscal Year 1958 Total
1	28	0	28	28	0	28
2	17	0	17	17	0	17
3	34	0	34	34	0	34
4	22	0	22	0	22	22
5	0	22	22	0	22	22
7	0	25	25	0	25	25
8	37	0	37	37	0	37
9	24	0	24	24	0	24
10	47	0	47	0	47	47
11	15	0	15	0	15	15
12	47	0	47	47	0	47
13	13	0	13	13	0	13
14	0	36	36	0	36	36
15	39	0	39	39	0	39
16	39	0	39	28	11	39
17	0	46	46	0	46	46
18	0	24	24	0	24	24
19	8	0	8	8	0	8
Ramah	8	0	8	0	8	8
Puertecito	2	0	2	2	0	2
Canyoncito	3	0	3	3	0	3
-N Ranch	0	6	6	0	6	6
TOTALS	383	159	542	280	262	542[6]

(6) Totals will be increased as 41 wells are completed during F. Y. 1958.

Range Management: The Range Management Section of the Navajo Agency Branch of Land Operations provides technical assistance to the Tribe in connection with the management and use of Reservation grazing lands. Range Management personnel took an active part in the elaboration of the Navajo Grazing Regulations, adopted by the Tribal Council on January 27, 1956, and approved by the Secretary of the Interior on April 25 of the same year.

The regulations in reference provide for a cooperative program to be carried on by the Bureau of Indian Affairs and the Navajo Tribe, including the following objectives:

1. The completion, over a 5-year period, of a range site and condition survey to provide basic data concerning soil types, forage condition and

Pinyon-juniper eradication opens additional acreages of Reservation rangeland . . .

To badly needed forage production for Navajo livestock.

present range use. The carrying capacity of the Reservation grazing lands was established, in 1943, at 512,000 sheep units yearlong, and both the drouth of the past seven years and the increase in range water supply, have had an effect on range use and capacity. The information which results from this survey may indicate a need to increase or decrease the number of stock in some areas.

2. The development of additional sources of range water, both permanent and temporary, as preliminary requirements to the improvement of livestock distribution. In addition to wells and reservoirs, "water catches" will be constructed in some parts of the Reservation. These structures operate after the fashion of the "tin roof and the rain barrel," and are especially well adapted to the need for water storage in areas where the soil is composed of highly permeable sand or cinders, and where the cost of drilling for water is prohibitive or uneconomic.

3. The revegetation of denuded areas of range by all known means, including deferred and rotational grazing, eradication of brush and other undesirable woodlands vegetation, and reseeding, to conserve soil and moisture and restore or increase carrying capacities. This aspect of the range management program will require construction of drift and range unit fences to control the movement of livestock.

The major responsibility for carrying out the program will rest with the Tribal Grazing Committees and, through them, with the local stockmen. The Branch of Land Operations will provide technical assistance and will share with the Tribe in providing necessary leadership.

As a further contribution to improved range management, the Tribe has entered into a cooperative agreement with the U. S. Fish and Wildlife Service, Predator Control Division, for the control of rodents and other animals detrimental to range or livestock. The Navajo Agency cooperated in the implementation of this aspect of the program.

The new Navajo Grazing Regulations provided a one year adjustment period, ending April 25, 1957, during which time stockmen operating without a grazing permit or in excess of their permitted number were to secure permits or dispose of excess stock. However, drouth conditions and low prices for livestock resulting from a glutted market made it uneconomic for Navajo stock raisers to carry out the necessary adjustment during the period April 25, 1956 to April 25, 1957.

As a result, during the period April 30 to May 2, 1957, Range Management personnel, with the Tribal Resources and Advisory Committees, met with members of the District Grazing Committees to develop justifications for an extension of the adjustment period to April 25, 1958, and to elaborate plans for compliance with the regulations thereafter.

The plan developed provides for: (1) the conduct of a closely coordinated program for elimination of surplus horses; (2) encouragement of families to consume cull and non-productive stock at home; (3) acceleration of the water development program to open presently inaccessible range areas to grazing and thus relocate and redistribute part of the Reservation livestock; (4) assistance to stockmen in securing necessary grazing permits to cover the stock they will retain after April 25, 1958; (5) continuation of the Tribal land acquisition and exchange program; and (6) continued emphasis on industrial development, relocation and farm training to reduce dependence on stock raising. The plan also provides for the submittal of quarterly reports to the General Superintendent covering progress toward the short term and long range objectives outlined above. The plan and a request to the Secretary of the Interior for extension of the adjustment date to April 25, 1958, were formalized in a resolution adopted by the Tribal Council on May 28, 1957.

Lastly, the Navajo Agency is cooperating with the Tribe and others in an effort to restock portions of the Reservation with deer, wild turkeys, beavers and fish. The consent of local Navajos is secured before acting in this regard.

The Range Management Section does not receive allocations of Long Range funds, but operates with regular program funds. In fiscal year 1957 it was financed by an allocation of $129,752. The staff includes 13 technicians and 10 aides, of which two (technicians) are located at Agency Headquarters and the remainder operate in connection with the Subagencies.

Extension: Folllowing the establishment of the Navajo Reservation in 1868, and before many other programs, including education, had gotten underway, an effort was already being made to teach improved agricultural techniques and practices to the Navajo. In a report dated May 20, 1893, Agent Plummer mentions a visit he made to a 200 acre farm irrigated by water stored in a dam built in Cottonwood Wash by a Navajo known as Captain Tom. In the same report he points to the need for a more intensive agricultural training program to be carried on under the direction of Agency farmers. In 1893, there were several such persons employed by the Navajo Agency, and these were the forerunners of the Extension Service developed and operated by the Bureau in later years.

The primary objective of the Navajo Agency Extension service operated within the Branch of Land Operations, had been the improvement of agricultural income and living standards of Navajo farmers and stockraisers through increased production, better techniques, control of disease and pests, improved quality of products, home management and similar media.

The extension program is essentially educational in its approach, and to some extent it parallels the County Extension Services maintained for non-Indian communities by the Department of Agriculture and the State Land

Grant Colleges. The special services of the Bureau of Indian Affairs duplicate those available from State and County sources to such a degree that the Bureau is in the process of transferring this activity to the States and Counties, a step which has the endorsement of the Navajo Tribe.[3] To date, one extension contract has been completed and placed in force, with the State of New Mexico. This contract, affecting McKinley County, became effective May 1, 1956.

The Extension Section is not financed by funds appropriated under the authority of the Long Range Act, but received an allocation of $139,530 in regular appropriations for its support in fiscal year 1957, including the McKinley County Contract ($21,890). The Agency Extension staff includes one technician at Window Rock and 13 at the Subagencies. In addition, McKinley County provides 3 technicians under the terms of their contract.

7. DEVELOPMENT OF INDUSTRIAL AND BUSINESS ENTERPRISES

Following World War II, and during the period of planning that culminated in passage of the Navajo-Hopi Long Range Rehabilitation Act, it was estimated that available Reservation resources could support only a very small proportion of the Navajo population and, indeed, that the Reservation area could provide a livelihood at a reasonable living standard for only about one-half the Navajo population even after full development of the resource potential. As a result the Krug Report (1948) and the Long Range Program envisioned a diversification of Navajo economy to minimize the number of Navajo families dependent on grazing and agricultural resources of the Reservation area.

One aspect of the proposed diversification of Navajo economy involved the development of Tribal and individually operated Indian enterprises, an approach outlined in detail in the report of Max Drefkoff, Industrial Consultant to the Secretary of the Interior, (1948). Mr. Drefkoff recommended the establishment of numerous small enterprises within the Reservation to utilize natural resources and provide local employent and training opportunities to Navajos.

The program outlined by Mr. Drefkoff was incorporated into the report of Secretary Krug (1948), and into the Long Range Act itself, wherein $1,000,000 was authorized for appropriation to finance the Tribe in an industrial decelopment program.

(3) Endorsed by Resolution No. CF-9-54 of the Navajo Tribal Council, adopted by a vote of 63-1, and providing that "the Navajo Tribal Council asks and urges the Commissioner of Indian Affairs to arrange for the transfer of the agricultural extension work of the Bureau to the Department of Agriculture and states affected conditioned upon the completion of arrangements at the same time for providing to the Navajos the services of the cooperative federal-state extension program administered jointly by the Department of Agriculture and the State extension services to the end that any possible duplication of such services may be terminated and that the Navajos thereafter may have more effective agricultural assistance."

The Navajo Furniture Industries, Inc., with a plant at Gamerco, New Mexico, represents a cooperative effort by the Navajo Tribe and private industry to provide local employment opportunities to Navajo workers.

Photo by James Bosch

During the period fiscal years 1951-1956, $228,000 was allocated for industrial development purposes, and an additional $10,000 became available in fiscal year 1957, bringing the total allocation to $238,000 to June 30, 1957. To this amount, during the period 1951-56, the Navajo Tribe contributed $447,563 of money borrowed from the United States under the Credit Program and $16,000 of Tribal funds, bringing the total available for development of industrial enterprises to approximately $701,563 (exclusive of interest on borrowed capital).

With the funds in reference above, various studies were carried out and several experimental operations were initiated including the purchase and operation of Reservation trading posts (at Pinon, Sawmill and Wide Ruins), reorganization of the Arts and Crafts Guild, development of a cement products industry and a wood products industry, construction of Tribal motels at Shiprock and Window Rock, operation of the Window Rock Coalmine, the Wingate Village low cost housing project, and several small scale "pilot" endeavers known as the Clay Products, Native Materials, Leather Products and Wool Textile Industries, few of which proved profitable or feasible due to a variety of reasons. The trading posts were sold by the Tribe in 1955, and the "pilot" projects were liquidated in the same year. The cement products plant was leased to a private firm in 1954, and only the Arts and Crafts Guild, the Ram Herd, the Window Rock Coalmine, the Wingate Village Housing Project and the two Tribal motels have survived.

Until January 1, 1954, the experimental industrial program was directed and administered by the Advisory Committee, the Bureau of Indian Affairs and, after February 20, 1953, a Business Management Committee. The latter was authorized by the terms of an agreement between the Navajo Tribe and the Bureau of Indian Affairs,[1] completed on the above date, and composed of three members of the Navajo Tribe, two persons from outside the Tribe and the Bureau of Indian Affairs and two ex-officio members appointed from the staff of the General Superintendent of the Navajo Agency. The Committee was charged with the responsibility for reviewing all proposals for new Tribal Enterprises as well as the operational status of existing industries. It also made recommendations for development, modification or expansion of enterprises. The Agreement between the Tribe and the Bureau of Indian Affairs formally defined the responsibilities of the parties to the agreement in the field of industrial development.

On January 1, 1954, the Tribe employed a General Business Manager, and thereafter assumed a larger share than before of responsibility for enterprise development and operation in conformity with the Agreement.

Although the effort to improve Navajo living standards through the development of small enterprises and industries utilizing local resources was

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(1) Entitled "Agreement Between the Navajo Tribe of Indians and the Bureau of Indian Affairs Regarding the Establishment and Operation of Tribal Business Enterprises."

generally unsuccessful, and although the Tribe sustained a financial loss in the effort, there was a valuable gain in terms of experience. The experiment revealed the limitations inherent in the Drefkoff proposal and caused a shift in Tribal policy wherein the major emphasis came to be placed on the attraction of established industries to the Reservation or to the surrounding area, capable of employing Navajo labor. Such an industrial development program was recommended by and has the full support of Commissioner Emmons. It involves negotiation with established industries by the Navajo Tribe in cooperation with non-Navajo communities, and the development of mutually beneficial agreements whereby a plant site, buildings, employee training subsidies or other valuable considerations may be offered by the Tribe to attract industrial operators to locate plants in the Reservation area.

The new industrial development policy of the Tribal Council was set forth in the resolutions of October 20, (No. CO-40-55) and December 8, 1955 (No. CD-44-55). The former directed the Chairman of the Navajo Tribal Council to advise the Chambers of Commerce in the towns situated around the perimeter of the Reservation of the desire of the Navajo Tribe to participate with them in the development of local industries wherever such operations promise to create payrolls for Navajo labor. The Council also committed itself to consider the provision of plant facilities and subsidization of employee trainng. The second resolution in reference above amended the 1956 Tribal budget in the amount of $300,000 to finance Tribal participation, and extended the geographical limits of Tribal participation to include all of New Mexico, Arizona and Utah, provided reasonable assurance is given that the plants involved will employ Navajo workers. Further, expenditure of funds appropriated was authorized either directly by the Navajo Tribe or through grants to Federal, State, Municipal or private agencies to secure a census of Navajo employables with a cataloging of their work skills; to establish or participate in the establishment of an employee training program; to provide plant sites and facilities, and to carry out other work necessary to the new industrial development program.

In May of 1956 the Tribe employed an Industrial Manager and embarked on the new program in collaboration with a small staff previously assembled by the Commissioner of Indian Affairs for the promotion of industrial development in the neighborhood of Indian Reservations throughout the United States.

Since May, 1956, two industrial operations have been brought in to the Navajo area, of which one is located at Flagstaff, Arizona, and the other near Gallup, New Mexico.

The Navajo Furniture Industries Inc., located at Gamerco, near Gallup, is a New Mexico corporation formed by three principals of the Baby Line Furniture Company of Los Angeles, California. The mother company has

Uranium mining and activities of the Bureau of Indian Affairs provide employment to both skilled and unskilled Navajo workmen on the Reservation, and

Industries such as Lears Electronics and the Arizona Pulp and Paper Company provide work opportunities in nearby towns.

Photo by James Bosch

been a manufacturer of furniture for babies and young children for a number of years, and the Gallup plant is presently producing play pens. This plant currently employs 35 Navajos.

In November, 1956, Lear, Inc., a small plant producing electronic parts commenced operation at Flagstaff. The main plant is located at Santa Monica, California, and the items assembled at the Flagstaff operation are shipped to the main plant by rail. Lear-Navajo currently employs 20 Navajo workers, chiefly women. The Flagstaff operation was established by Lear, Inc. on a strictly trial basis and it appears doubtful that the plant can survive the re-trenchment now underway in the electronics industry.

In addition an agreement has been reached with The Arizona Pulp and Paper Company of Flagstaff, an established company presently in the process of expansion, whereby the Navajo Tribe partially subsidizes an employee training program for Navajo workers. The Tribe has agreed to reimburse the employer for a progressively diminishing portion of trainee wages over the course of a year, thus permitting the trainee to receive a reasonable subsistence wage during the training period without placing the total burden on the plant operators. It is hoped that similar training arrangements can be carried out by agreement with other industrial operators.

It is not the intention of the Navajo Tribe to permanently subsidize industries employing Navajos, but to offer subsidies only in the initial phases of each operation brought to the Reservation area and employing Navajos. Further it is the policy of the Navajo Tribe to participate financially in subsidizing industry only to the extent that Tribal funds expended for any individual industry can be recovered in the form of wages paid to Navajo employees over the period of the first year's operation. The aggregate Navajo payroll anticipated within the first year of operation determines the maximum extent of Tribal subsidy, as a general rule.

About a year later (November, 1956), the initial $300,000 Tribal appropriation appeared to be insufficient, in view of commitments which had been made, especially in bringing about plant expansions, and the Council appropriated an additional sum of $300,000 plus $44,000 of funds advanced to the Tribe under the Tribal-Bureau Agreement of June 4, 1953. At the close of fiscal year 1957 there had been expended a total of $122,500 under the authority of the two tribal resolutions in reference. In addition, contractual commitments had been entered into with Lear Incorporated and New Mexico Furniture Industries Incorporated, under which the Tribe obligated itself to expend additional funds in the amount of $65,000 and $103,000 respectively should these companies elect to expand their operations.

The furniture factory near Gallup would employ approximately 100 Navajos following plant expansion, to provide a payroll estimated at

$429,000 per annum. In the furniture manufacture and assembly work average wages range from $1.00 to $1.75 per hour while work in the Pulp and Paper Mill brings from $1.20 to $1.90 per hour.

As one aspect of their collaboration in the program of industrial development, the peripheral communities carry the responsibility for provision of low cost housing. So far they have not acted in this regard and much of the available housing remains either substandard in quality or too high in rental. This fact has led the Tribal Council, at its 1958 Budget hearing, to reject appropriation of additional funds with which to subsidize employee training. Adequate, low cost housing is essential to industrial development, and the Tribe is unwilling to subsidize the housing as well as the plant facilities, especially in view of the benefits that accrue to the local communities from industrial payrolls.

The Bureau of Indian Affairs has extended the Relocation Services program to include the relocation of Navajo workers from the Reservation to the peripheral towns in connection with industrial development. However, unresolved problems remain to hamper expansion of this important effort on the part of the Tribe and the Bureau of Indian Affairs to improve the economic standards of the Navajo people.

8. RESETTLEMENT ON THE COLORADO RIVER IRRIGATION PROJECT

The Colorado River Indian Reservation located on the east side of the Colorado River south of Parker Dam in western Arizona, contains a large acreage of potentially valuable irrigation farm land. The Reservation was established by an Act of Congress in March of 1865, "for Indians of said river and its tributaries," and the development of an irrigation system commenced two years later, with the appropriation of $50,000. Progress has been slow, however, toward subjugation of the full agricultural potential, although in 1935 Congress authorized the construction of the Headgate Rock Dam at a cost of $4,632,775.

On February 3, 1945, the Colorado River Tribal Council adopted an ordinance authorizing settlement of the Southern Reserve portion of the Reservation by other tribes of the Colorado River and its tributaries and, in the fall of the same year, 16 Hopi families accepted land assignments there.

Seeking new resources independently of the Navajo Reservation, the Long Range Program looked to the development of Colorado River resources to their full agricultural potential of about 100,000 acres of irrigated land, of which half could be utilized for the resettlement of Navajo and Hopi farmers. Assuming 40 acres per family to be sufficient, it was originally planned to move a maximum of 2,000 colonists to the area, and to develop the necessary land the appropriation of $5,750,000 was authorized by the Long Range Act.

A large, modern public school serves the children of colonists at Parker,—

And there are adult classes at which grown-ups can learn English.

During the period 1951-56, inclusive, a total of $2,939,750 was made available to meet an immediate objective involving the subjugation of 15,000 acres in the Southern Reserve and an equal acreage in the Northern Reserve. During the period in reference, 11,950 acres were developed in the Navajo-Hopi portion (the Southern Reserve), and about 11,350 acres were subjugated in that portion of the Reservation reserved for the use of the Colorado River Tribes.

However, the acreage developed to date is only a fraction of the total irrigable area, and the Santa Fe Compact protects the water rights of the Colorado River Reservation only to 1962. Thus, a major problem at present involves development of the full potential by 1962.

The required development can be carried out in two manners: by the Federal Government, or by private capital through improvement leases. Federal appropriations are not adequate for the purpose, and the Bureau of Indian Affairs has acted to offer the undeveloped acreage for lease to operators of private agricultural enterprises who would subjugate the land in exchange for the right to use the acres thus developed for a 25-year period.

To facilitate the leasing of the undeveloped lands, Congress enacted Public Law 390 in August of 1955, authorizing the Secretary of the Interior, for a 2-year period, to lease any unassigned lands on the Colorado River Reservation for educational, recreational, agricultural, and other purposes, but meanwhile the Colorado River Tribal Council had reversed the position it took in 1944-45, at which time it (1) agreed to permit the division of the Reservation into two Reserves, a Southern and a Northern, in exchange for the development of 15,000 acres of irrigated farm land in the Northern portion which it reserved for the use of the Colorado River Tribes (Mojave, Chemehuevi, etc.) proper, and (2) by Ordinance No. 5, adopted on February 3, 1945, it agreed to permit the colonization of the Southern Reserve by Navajos and Hopis. The Colorado River Tribal Council stated its opposition to continuation of the colonization program and it was not possible to carry out the improvement lease program for land development pending solution of the problem of land status on the Reservation. The two year period during which leasing was authorized expires in August of 1957, but lease bids have been invited by the Phoenix Area Office for the development of 65,000 acres of irrigable land under a single 25-year lease. In accordance with Public Law 390 (84th Congress) revenue accruing from leases in the Southern Reserve will be held in a special account pending determination of beneficial ownership of the land involved.

Development of the 65,000 acres by private capital, added to the 38,000 acres which have thus far been developed by the Federal Government since establishment of the Colorado River Reservation in 1865, would meet the objective of attaining the full agricultural potential by 1962, to protect Indian water rights in conformity with the terms of the Santa Fe Compact.

The lands on the Colorado River Reservation are rich and productive, well adapted to a wide variety of agricultural crops including alfalfa, cotton, milo, barley, flax, sugar beets, grapes, melons, and many vegetables. Alfalfa, cotton, barley and sorghum are the principal crops raised at present on the developed lands of the Reservation, although specialty crops (melons, grapes, vegetables, etc.) would no doubt give greater returns assuming the development of necessary markets for these products.

Since the first colonists moved to the Colorado River Reservation in 1945, 149 Navajo and Hopi families have taken land there. Of this total, 55% or 82 of the colonist farmers have given up their assignments and returned to the Navajo-Hopi Area, and 67 families remain on the Colorado River Reservation (including 14 Hopi families). Reasons for leaving vary, but include family and health problems as well as ineptness for farming. The area is dry with temperatures reaching as high as 127° F. in mid-summer, and a mean annual precipitation of only 5.08", facts which create problems of adjustment for persons coming from higher elevations and cooler climes. Probably half of the Navajo-Hopi colonist farmers returned to their home country because of failure to master the techniques and adjust to the management requirements for successful irrigation farming in the Colorado River area.

During the initial phase of the colonization program, farmers received assignments of 40-acre areas of irrigated land, and full responsibility for budgeting farm income rested with the individual. The 40-acre plots proved insufficient and land assignments after 1953 were increased to 80 acres. Navajo and Hopi colonists were unaccustomed to a farming operation which produced relatively large amounts of gross farm revenue periodically over the course of the year, from which the farmer had to reserve funds with which to meet future operational costs and repay a portion of the loan he received initially for purchase of farm equipment. The requirements for budget planning, to foresee and meet future costs, were foreign to the experience of the colonists, and many failed because they could not master these essentials. It was not until 1954 that the Colorado River Agency established a budget control system to prevent the failure of other farmers who had proven unable to manage farm finances for themselves. This is not a permanent service by the Bureau of Indian Affairs, but one which will be provided until individual farmers have discharged outstanding indebtedness and learned the techniques involved in managing their own farm budgets.

There are presently 25 colonist farm families for whom the Colorado River Agency provides budget assistance. All have 80-acre assignments of good irrigated land, and derive a gross annual income ranging from a low of $1,202.24 to a high of $8,093.35 in the calendar year 1956. Of the 25 families in reference, some have voluntarily requested budget assistance, and this group may be taken as a fairly good cross-section of the colonists. Relative distribution of gross farm income (for calendar year 1956) within this group of 25 families is summarized as follows:

Income Group	No. Families
$1,000—$2,000	4
2,001— 3,000	4
3,001— 4,000	7
4,001— 5,000	4
5,001— 6,000	1
6,001— 7,000	2
7,001— 8,000	2
8,001— over	1

Median gross farm income falls at between $3,000-$3,500 per annum (in 1956), with the wide range ($1,202.24 to $8,093.34) noted above. The primary reason for the wide disparity in gross income is simply that some individuals are better farmers than others. The highest gross income received by a colonist farmer for 1956 was $13,485 (by an individual who manages his own farm budget, and who is among the 42 families who do not receive the Agency budgeting services). The production and income potential of the farm land is great, and actual productivity is determined primarily by the skill and industry of the individual farmer.

Of the 25 families served by the controlled budget program, loan repayments in 1956 ranged from nothing to $1,500, with an average repayment of about $668. (A total of $13,363.60 was received in loan repayment installments from 20 of the 25 farmers.)

Farm loans ranged from $3500-$6000 per family, and were used for the purchase of necessary equipment, housing, etc., at the time the colonist received his land assignment. During the period 1945-1951, inclusive, loans outstanding totaled $692,676.83, and on January 31, 1951, there remained 42 active loans totaling $113,774.01. Of all farm loans, 49 were in default with an outstanding balance of $100,219.77, and of the 149 Navajo and Hopi colonists who took assignments at Colorado River during the period 1945-1955, 58 paid their loans in full.

Of 46 Navajo colonist farmers, 19 can be described as successful on the basis of farm management, income, property improvement and similar criteria; 15 might be classified as moderately successful; 8 are in a borderline position, and 4 are unsuccessful.

Despite the greater agricultural experience of the Hopi as a traditional (dry land) farmer, there is little if any difference between the Navajo

Many colonists at Parker have fine, modern homes,—

And are accustomed to hard work under the hot sun.

nd Hopi colonist at Colorado River in terms of managerial ability and in-
ome level. Both groups had to make serious adjustments to new agricultural
onditions, and irrespective of tribe, successful farming reflects the extent of
uch adjustment and the individual factors of ability and ambition.

Under ordinary management practices Colorado River farm land will
ield a net profit of about $40-$50 per acre per year from hay or $100-$150
er acre from cotton. For maximum production the farmer must take ad-
antage of the long growing season—nearly year around— and cannot suc-
essfully operate as a farmer on a 3-5 month farm operation program. On a
ull year farm operation basis, with double cropping, the 80-acre assignments
t Colorado River should produce a maximum net average profit of $8,000
er year at present price levels.

It has been partly on the basis of the experience of Navajo colonists at
olorado River that the Navajo Tribe established, in 1956, a Farm Training
rogram on the Helium Unit of the Hogback Project where Navajos can
eceive intensive training in the techniques of irrigation farming.

Aside from the varying degrees of success of Navajo colonists on the
olorado River Reservation as measured against maximum production stan-
dards, the fact remains that average income levels and living standards for
he group are better than those which obtain generally on the Navajo Res-
ervation. Housing is far superior, diet is excellent and varied (most families
aintain small numbers of sheep or other meat producing farm animals for
ome consumption purposes, as well as home gardens which can produce
egetables throughout most of the year), public school opportunities are
xcellent, and there are other cultural and recreational advantages not
vailable under Navajo Reservation conditions (television, swimming, fishing,
oating, etc.).

During fiscal year 1957, a total of $210,000 of Navajo Long Range
unds was allocated to the Colorado River Reservation and utilized along
ith other money (to a total of $450,000) for the following purposes, includ-
ng work completed in both the Southern and Northern Reserves:

1.	Main canal structures	$ 80,000
2.	Main canal enlargement and development to provide increased capacity to newly subjugated areas	122,500
3.	Lateral System to prevent seepage	120,000
4.	Extension of the drainage system	112,500
5.	Power development to serve new families and businesses on the Reservation	15,000
	TOTAL	$450,000

Although the 67 remaining Navajo and Hopi colonist families at Colo-
ado River are welcome to remain there so far as the Colorado River Tribes
re concerned, the colonization program is presently being held in abeyance
ending the improvement leasing of undeveloped acreages, and pending

determination of beneficial ownership of the lands in the Southern Reserve. It is probable that a majority of the 67 families, especially those who have established themselves as successful farmers, will remain permanently or indefinitely on the Colorado River Reservation, although some still look nostalgically to the Navajo and Hopi country.

9. SURVEYS AND STUDIES

Although various cursory surveys and studies were carried out in decade past for the purpose of determining the nature and extent of natural resources on the Navajo Reservation, the information available at the time o the Krug Report, written in 1947, was scant and incomplete. In recognitio of the fact that development of every possible resource was necessary t raise the living standards of the Navajo people and increase the capacity o the Reservation to support the population dependent upon it, the Lon Range Act included an authorization for appropriation og $500,000 to carr out a detailed study of the mineral, timber and other available resources.

The total amounts of Long Range money allocated for Surveys an Studies since the inception of the program are summarized in the table below:

Fiscal Year	**Long Range Allocations**
1951-56	$401,875
1957	17,500
TOTAL	$419,375

	Annual Allocation of Long Range Funds							TOTALS
	1951	1952	1953	1954	1955	1956	1957	1951-1957
Cadastral Survey	$15,545	1,000	—	—	—	—	—	16,545
Economic Development	—	10,000	—	—	—	—	—	10,000
Topographic Survey	—	3,000	—	—	—	—	—	3,000
Timber Survey	—	20,000	500	—	—	—	—	20,500
Ground Water Survey	—	10,500	30,700	20,000	15,510	—	1,500	78,210
Mineral Resources Survey[1]	—	31,500	49,000	50,000	—	—	—	130,500
Mineral Resources Survey[1]	—	40,000	27,000	—	—	—	—	67,000
Lapse	—	9,000	—	6,600	—	—	—	15,600
Geographic Mapping	—	—	17,500	20,000	2,000	15,000	15,000	69,500
Wool Scouring Study	—	—	300	—	—	—	—	300
Inheritance Record Study	—	—	—	4,710	—	—	—	4,710
Helium Plan Irrigation Study	—	—	—	—	—	2,000	—	2,000
Photographic Work	—	—	—	—	—	—	1,000	1,000
Misc. Studies	—	—	—	—	—	510	—	510
TOTALS	$15,545	125,000	125,000	101,310	17,510	17,510	17,510	419,375

(1) The University of Arizona, College of Mines, received $130,500 and the New Mexico Institute of Mining and Technology received $67,000 to carry out similar mineral surveys in separate areas of the Reservation.

For the most part, the survey and study projects described above were carried out under contract by universities, Federal agencies other than the Bureau of Indian Affairs, or private companies. The U. S. Geological Survey carried out the ground water studies upon which the all important Triba and Federal Water Development Programs are based. Without guidance from this source the location of drilling sites would be haphazard and wasteful, involving attempts to drill for water where none is likely to be found.

The University of Arizona, Department of Geology, received $130,50 during the period fiscal year 1952-1954 under a contract to carry out mineral resources survey of the Navajo-Hopi Reservations in the States o Arizona and Utah. Under the able direction of Dr. George A. Kiersh, comprehensive study was completed and a report was issued in three volumes describing the geology of the area and cataloging the mineral resource in detail.

The New Mexico Institute of Mining and Technology, with the Stat Bureau of Mines and Mineral Resources carried out similar studies, largel in the New Mexico portion of the Reservation, and published a detaile report.[3] A total of $67,000 was allocated for this purpose, and the study wa carried out under contract.

Vast areas of the Navajo country are covered with pinyon trees, a dwar pine (Pinus edulis) exuding a resin which may offer future commercial poss bilities. It is more resistent to the action of cold and hot water than ordinar rosin, and spirit varnishes made from pinyon resin are more durable than ar those made with ordinary resins. Cost of gathering the resin makes it ur economical at present, but a demand may well arise in the future, based o its peculiar characteristics.

To assemble necessary information with regard to the distribution pinyon forests on the Navajo Reservation, and to carry out analytical studie of pinyon resin with especial reference to its commercial potential, th Bureau of Indian Affairs, Navajo Agency, entered into a contract with th University of Arizona. The study has been completed, and a detailed repor is available.

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(2) "Mineral Resources—Navajo and Hopi Indian Reservations—Arizona, Utah," Vol. 1 "Metallifer Minerals and Mineral Fuels" (1955); Vol. 2 "Non-metallic Minerals" (1955); Vol. 3 "Constructi Materials" (1955). Published by the College of Mines, University of Arizona, Tucson. Copies these reports are available from the Division of Resources, Navajo Agency, Window Rock, Arizo

(3) "Mineral Resources of Fort Defiance and Tohatchi Quadrangles, Arizona and New Mexico," John Eliot Allen and Robert Balk, Publ. by State Bureau of Mines and Mineral Resources, N Mexico Institute of Mining and Technology, Socorro, New Mexico. Bulletin 36, 1954. Also Bulle 44, a "Mineral Resources (Map) of the Navajo Reservation in New Mexico," by John Eliot All Publ. 1955 by New Mexico Inst. of Mining, Socorro, New Mexico. Copies of these Bulletins available from the Division of Resources, Navajo Agency, Window Rock, Arizona.

(4) "Pinyon Resources—Navajo-Hopi Indian Reservations—Arizona-Utah," Publ. 1955, University Arizona, Tucson. Copies available from the Division of Resources, Navajo Agency, Window Ro Arizona.

The timber survey, carried out with a total of $20,500 of Long Range ioney and $40,000 of Tribal money, plus an additional $32,000 appropria- on of Tribal funds to retain a firm of timber consultants, has provided ecessary basic information for final planning in connection with expansion f the Tribal lumber industry.

Detailed geological maps of the Reservation will be available in the ear future, financed by a total of $69,500 of Long Range money so far llocated for mapping purposes.

The Management Study of the Helium Plant Irrigation Project was com- leted in 1955 under contract with the Western Farm Management Com- any of Phoenix, Arizona, financed with $2,000 of Long Range money and 2,800 of Tribal funds. Pursuant to the recommendations contained in the nal management report, the Navajo Tribe has undertaken a farm training rogram on the project, looking toward the provision of more adequate aining to Navajo farmers, more efficient and economic use of irrigated armland, and looking especially to the possible development of the 115,000 cre Navajo Project in the near future.

Ground Water studies continue as the Reservation well drilling program rogresses, and the funds used for photographic purposes in fiscal year 1957 ave produced negatives with which to bring the realty plat book up to date ith relation to Navajo allotted lands in the "Checkerboard Area" east of ne Reservation boundaries in New Mexico. All in all, the data developed ith regard to Reservation mineral resources should prove to be of great alue in planning and programming for future developments.

10. OFF-RESERVATION PLACEMENT AND RELOCATION

Until the livestock reduction program and the public works projects of ne 1930's gave initial impetus to a process of economic and social change nat has revolutionized Navajo society, the People lived quietly, at a sub- stence level, from their herds of sheep and goats, following a pattern that ad taken root immediately after the Spanish conquest. An ever-expanding opulation, dependent on a fixed land base and an undiversified economy nally reached a point beyond which the agricultural resource could no nger support the people. It became imperative that immediate adaptations e made to broaden the economic base, and those adjustments were made, pecially during the war years, in the direction of a wage economy. Seem- gly a simple matter, from a non-Navajo point of view, it became complex id revolutionary from a Navajo viewpoint, necessitating a readjustment of aditional family living. The use of money instead of barter as a medium r obtaining commodities, a change in transportation from horses and agons to automobles, busses and trains, adjustment to new patterns of ing in areas remote from the Reservation, use of a new language (English),

Navajo agricultural skill is becoming highly diversified—

To include the care of orchards and fruit trees,—

Truck farming and gardening—

As well as traditional crops of squash and melons.

a realization of the need for formal school education, a new concept of time in activities where work began and ended on an hourly basis, and where pay was determined by the number of hours worked—these, and many other deep-seated cultural changes were suddenly required of the Navajo People in adjusting to the new wage-based economy. Some personalities made the transition with a minimum of discomfort and insecurity; some found it difficult to learn the management of money; some adjusted with difficulty to the requirements of life in the "foreign" environment beyond the Reservation boundaries; but with characteristic adaptability, most Navajos have succeeded in making at least minimum required adaptations with the result that present day Navajo culture stands n sharp contrast to the pattern of social and economic life of a generation past.

There are still old people who remain dependent on Reservation agricultural resources, and there are younger people who look to wage work exclusively as the means for a livelihood, but a majority of the Navajo people have blended the new and the old ways of life, deriving much of their actual livelihood from seasonal off-Reservation work, while maintaining homes on the Reservation at which they spend at least a portion of each year.

A great stimulus was given to wage work by wartime industries, but the trend toward the development of a wage economy received a momentary set-back just after the close of World War II, when sudden closure of those industries forced a great part of the Navajo population back to the bleak prospects offered by Reservation grazing and agriculture. The period 1945-1950 became a critical one with regard to Navajo economy. Many Navajos faced starvation, and the plight in which the Tribe found itself was widely publicized by press and radio. The American public demanded that corrective action be taken immediately, and Congress responded in late December of 1947 by appropriating $1,500,000 to support a Recruitment and Welfare Program on the Navajo and Hopi Reservations.

Capitalizing on the experience of Navajos during the years of wartime employment, the newly established Navajo Agency Branch of Welfare and Placement embarked in March of 1948, on a program of job-finding and placement in a wide variety of industries—agricultural, mining, railroad, etc. Eight sub-offices were established for labor recruitment purposes at strategic ocations throughout the Navajo country, and four regional offices were opened at Denver, Los Angeles, Phoenix and Salt Lake City, the latter servng as contact points with employers in the development of work opporunities, and the former facilitating contact with Navajo job-seekers at home on the Reservation.

During the same period, the Long Range Rehabilitation Program was in he process of formulation, and the economic security of the Navajo people eceived primary consideration. As a result, $3,500,000 was authorized for ppropriation to continue and expand a Placement and Relocation program.

The Placement effort of the Bureau of Indian Affairs continued until after July 25, 1950, at which time an agreement was executed between the Bureau of Employment Security and Bureau of Indian Affairs, transferring responsibility for service to Navajo job-seekers to the State Employment Services, except for railroad work. The Railroad Retirement Board assumed exclusive responsibility for the recruitment of railroad workers, and the State Employment Services assumed exclusive responsibility for the recruitment of other classes of workers. Thereafter, the Bureau of Indian Affairs lent its efforts primarily to the development of year around job opportunities in industry for Navajos able and willing to resettle themselves and their families in cities located at a distance from the Navajo Country. The new activity became known eventually as the Relocation Services Program.

Placement of Navajos. On July 1, 1955, a new memorandum of understanding was signed between the Bureau of Indian Affairs and the United States Department of Labor, superseding the agreement of July 25, 1950[1]. The new agreement emphasized the primary objectives of permanent voluntary relocation and the provision of full employment services to Reservation Indians, including the provision of employment counseling services; the provision of aptitude and proficiency tests to prospective Navajo (and other Indian) workers, and full consideration of the qualifications of Indian applicants in selecting workers to fill job orders.

Available information would indicate that agricultural employment was slightly less and non-agricultural employment slightly greater in 1956 than it was in 1955. However, the total number of placements by the State Employment Services in the 1956 calendar year was probably very close to the total in 1955 (reported at 13,031), and earnings from seasonal employment probably approximated comparable earnings during the preceding year (estimated at over $5,300,000 from agricultural and non-agricultural work).

During calendar year 1956, placements by the Railroad Retirement Board were up slightly over the 6,571 reported for 1955, to 6,648, of which about 3,000 were on the Santa Fe, 3,000 on the Union Pacific and 500 on the Denver and Rio Grande systems. Total earnings from wages during calendar year 1956 are estimated at $8,000,000 with an additional $2,165,000 derived from unemployment compensation, to a total of about $10,000,000. Unemployment compensation was down, and wages were up on railroad work in 1956, owing to the fact that a greater number of Navajo employees remained on the job for greater periods of time than in 1955. Average earnings are about $240 per month, and the estimate of approximately $8,000,000 from wages was based on $1,200 or five months work per employee during 1956. Three months of employment is a minimum figure, while many railroad employees worked for 6 months or more.

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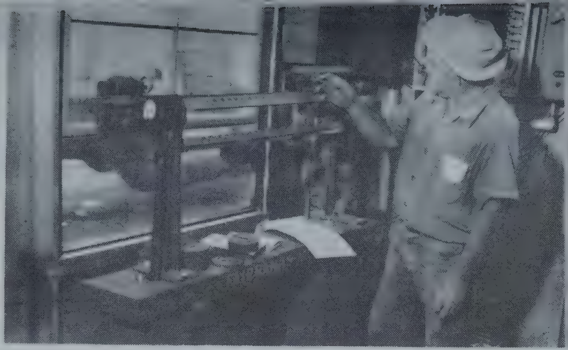
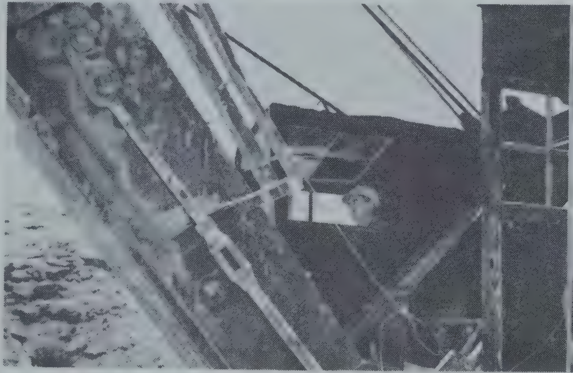
(1) See "Expanded Services to Arizona Reservation Indians," published 1956 by Arizona State Employment Service.



Many Navajos have entered industry—

And work off the Reservation in mining,—



Manufacturing, equipment operation and other jobs.

In the cities relocatees take advantage of opportunities for adult education.

Photo by James Bosch

In the 1955 edition of the Yearbook an effort was made to estimate the wage earnings and other income of Navajos. Based on all available information, Navajos received in the neighborhood of $35,000,000 during 1955, of which only $4,000,000, or 11.4%, derived from Reservation agriculture and stock raising. Figures developed by Extension personnel for 1956 show a total value from sales of agricultural and livestock products at $2,249,104 plus $1,702,107 as the value of similar products consumed at home, or a total of $3,951,211. This estimate, developed for 1956 by the Field Extension staff is very close to the estimate used for 1955 when no data were available from the field and, assuming that total income remained at about the $35 million level in 1956, it follows that Reservation agricultural and livestock income again contributed only about 11% of the total.

In 1955 an estimated $1,772,560 in wages and other income was derived directly from Reservation mining work. This figure was down in fiscal year 1956-57 to about $1,000,000 due to stockpiling of uranium ore pending completion of new Reservation mills at Tuba City and Mexican Hat, but it is anticipated that income from this source will again rise to the 1955 level in fiscal year 1958. If as much as 5% of total income is derived from mining on the Reservation, natural resources within the Navajo Country contribute only about 16% of the annual income of the Navajo people. This excludes Government and Tribal payroll, welfare, arts and crafts, and other sources of livelihood on the Reservation which, if included, would raise the percent of total annual income derived from sources in any way related to Reservation living to a maximum of 45%, including wages paid to Navajos employed by the Bureau of Indian Affairs in the area peripheral to the Reservation the value of welfare, social security, etc.

The extent of the Navajo social and economic revolution of the past 20 years is reflected in the fact that more than half of the total individua Navajo income today is derived from wage work independently of Reservation resources, and only about 11% derives from Reservation agriculture and stockraising, a proportion which stands in sharp contrast to the economic picture of 20 years ago[2], which showed a total combined individual Navajo-Hopi income of $5,004,460—$143.49 per capita if evenly distributed among a population placed at 38,360 Navajos and Hopis. In 1936, the movement toward greater dependency on wage income had already begun, with the Public Works Projects of the depression years. Nonetheless, in 1936, of the total income of $5,004,460 from all sources, $2,686,140 or 54% derived from agriculture and stockraising, including the value of products consumed a home, $1,712,010 or 34% from wages and $606,310 or 12% from weaving and miscellaneous sources. Of wages paid only 5% derived from non-Government payrolls, and employment was almost totally in the form of on-Reservation work.

(2) Human Dependency Survey, Statistical Summaries for 1936 (published in 1938) and 1940, prepared by Division of Socio-Economic Surveys, Department of the Interior, Navajo Agency.

Four years later, in 1940, and with reference only to Navajos, $4,027,530 is shown as total individual income from all sources—a per capita of $81.89 if distributed evenly over a population placed at 49,185. The total income was derived, $2,357,590 or 58%, from Reservation stock raising and agriculture including value of products consumed at home, $1,195,200 or 30% from wages (of which only 16% was paid by traders or other non-government employers), and $474,740 or 12% from weaving and miscellaneous sources.

It follows that, two decades ago or less, individual Navajo income derived almost totally from Reservation resources including local wage work, with more than half of the income coming from agriculture and stockraising. A few years before 1936, before the Public Works Projects of the depression period became an economic factor, nearly all individual income derived from stockraising, agriculture and weaving. The people were almost entirely dependent upon the land.

Over the course of the past 20 years the sources of income have not only changed drastically, especially in the proportionate contribution of Reservation resources as contrasted with non-Reservation resources, but also total individual income has increased enormously from less than $5,000,000 or an average per capita of $81.89 in 1940 to $35,000,000, or an average per capita of about $450 in 1956.

Of course, it should be borne in mind that an average per capita figure is extremely misleading, whether today or in 1936 or 1940, and as a measure of how the average Navajo family is faring today, it is nearly meaningless. Neither in 1936, 1940 or in 1956 do we know **how** total individual income was distributed, and obviously it was not equally distributed among the total population. In 1936, some families realized better incomes than others from stockraising, agriculture or wage work; similarly, in 1956, some families received much higher incomes than others. During both periods, economic evels run the gamut from extreme poverty to comparative opulence and, unfortunately, we have no way of knowing what proportion of the population falls into either these extreme categories or into an intermediate class. Some clew might be provided by the fact that, in 1955, over 3,200 persons, ncluding Hopis, received social security assistance from the States of Arizona, New Mexico and Utah, while an additional 500, approximately, eceived some welfare assistance from the Bureau of Indian Affairs and from he Navajo Tribe, and an indeterminate number of otherwise eligible persons did not receive welfare assistance due to technicalities affecting their eligiility, failure to apply for assistance or for other reasons.

Within the total Navajo population, 34% fall within the age group 6-18 ears, and most of these children are adequately clothed by the Tribe, oused and fed by the Federal government or the missions in connection with school operations.

Based on the census of 1950[3] about 8% of the total Navajo populatio or about 6,500 persons, falls within an age group 55 years and over. O these, as many as 5,000 may conceivably be eligible for welfare, or at leas their incomes may be generally at a subsistence level. Of the remainin 40 percent of the population aged 19 years and older, there is no doub a group whose annual income is below the average figure, and there is group of persons steadily employed, whether by the government, the Tribe the Ordinance Depots, sawmills, railroads, mines, etc., whose income is fa in excess of the average figure. For example, about 750 Navajos are employed in steady seniority positions with the Santa Fe railroad, receivin salaries of more than $3,000 per year; more than 1,000 are employed b the Bureau of Indian Affairs at salaries ranging upward from $3,000 pe year, etc.

To gain a clear picture of Navajo economy, a study would be necessar to collect data, whether on an individual or on a sampling basis, upon whic to base a classification of the adult population into income groups. Such classification would undoubtedly show that a sizable proportion of the population is living at a very low income level on the Reservation. It is unfortunate that such a study has not yet been made, since detailed informatio relating to Navajo economy could be of inestimable value in programmin for social and economic improvement.

The Relocation Program. The movement of Navajos from the Reservation to take up residence and fill steady jobs in communities located fa from the Reservation commenced during the war years and continued afte the end of World War II. The early relocatees went individually and withou assistance from government or other sources motivated in large part b economic necessity, and generally comprising a group of English speakin and relatively well acculturated persons. They relocated to a variety o areas, from the midwest to the Pacific Coast, and took employment in factories, mines and other industries.

After 1952, the Bureau's Relocation Program entered the picture o the Navajo Reservation, designed to facilitate the voluntary relocation o other Navajos to areas where industrial employment and improved livin standards are available. It was not, and is not, the objective of the Burea of Indian Affairs to apply "high pressure" techniques aimed at removin Navajos from the Reservation, but rather to provide necessary assistance t persons who have reached the conclusion that there are better opportunitie for themselves and their families in non-Reservation communities; person whose meager resources are not sufficient to meet the cost of moving thei families, or who fear the uncertainties attendant upon going on their ow initiative to a distant city.

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(3) 1950 U. S. Census; Non-white Population by Race, Special Report P-E No. 3 B.

The Bureau's Relocation Program is well organized and well coordinated, involving (in 1957) 6 Field Relocation Offices located at Los Angeles, San Jose, San Francisco, Denver, St. Louis and Chicago, whose responsibility it is to assist Indians arriving at those locations from the various Reservations. The Field Relocation staff locates housing and employment for the relocatees, provides limited financial help pending placement in a job (ranging from $90-$400, depending on family size), orientation, and assistance in the complex task faced by relocatees of adjusting to and integrating themselves into the community that will be their permanent home.

At the Navajo Reservation level the program is decentralized into the 5 subagencies, with a small headquarters staff located at Window Rock, Arizona. The rapidly increasing demand for relocation services among the Navajo people is reflected in the fact that, in fiscal year 1956, 530 persons left the Reservation in comparison with 187 during the preceding year. To meet this growing demand the Agency Relocation staff has been expanded from 13 in fiscal year 1956 to 20 in 1957.

During 1955-56 the Bureau of Indian Affairs, in cooperation with the Railroad Retirement Board and the Union Pacific Railroad, embarked on an experimental program involving the recruitment of Navajo men with their families to fill permanent section jobs. The work involved made minimum demands on the workers so far as ability to use English was concerned, and provided good housing, wages and living conditions. In view of the fact that many Navajos are prevented from relocating through the regular Bureau program because of inadequate knowledge of the English language, it was thought that relocation opportunities with low requirements in this regard might meet a real need. Accordingly, in the spring of 1955, 23 families consisting of 63 persons, moved from the Reservation to various points in the western part of the United States where section employment was available. A year later, in the spring of 1956, 88 additional families, comprising 347 persons, entered similar employment. Of the initial groups relocating to permanent section work, a large percentage has returned to the Reservation—a proportion running as high as 70% on one section. As a result, this aspect of the relocation program has undergone revision, with the responsibility for uture selection of permanent section employees left to the roadmasters upervising the various sections. Upon their recommendation and request, the Branch of Relocation services will assist families to move from the Reseration and join husbands employed in permanent section work. In 1957 only families relocated for work of this type.

With the advent of the Tribal Industrial Development Program in 1956, need has arisen for assistance to Navajo families moving from the Reservaon to take employment in the peripheral towns. Assistance in this regard cludes counseling services, financial aid during the training period (at Lear-avajo Project two weeks training is required and at Navajo Furniture Industries, Incorporated, there is a four week training period), financia assistance for the purchase of basic items of household furniture, help in th enrollment of children in school, and other types of aid.

In the fall of 1956, the Navajo Tribal Council authorized the establishment of a Council Committee on Relocation which has subsequently bee extremenly active in evaluating and interpreting the program to the Triba Council and to the Navajo people, and in recommending improvements i the policy and mechanics of the program. The Committee has visited Fiel Relocation Offices and Navajo relocatees in the West coast, as well as i the Chicago, St. Louis and Denver areas, prepared written reports and ha otherwise contributed to the growing success of the program.

The Navajo Relocation Services Program has as its primary objective a effort to improve the economic status of Navajo men and women who posses the necessary cultural background to adjust to the conditions of off-Reservation living. Persons interested in relocation must take the initiative in contacting one of the Subagency Relocation Offices where they can inquire about employment opportunities, living conditions and the like in industria areas remote from the Reservation, and where necessary arrangements ca be made for them if they are interested in leaving the Navajo Country. Mos of the people who decide to leave the Reservation have already had some experience in off-reservation living, gained in the course of seasonal employment or other activities, so the step is less drastic than it might seem.

At an earlier period in the operation of the Relocation Program, a larg proportion (nearly 50% during the first year's operation) gave up and returned to the Navajo Country, but the proportion returning has shown steady decline since that time, while the number relocating has increase steadily. The importance of relocation as an aspect of Navajo economi improvement is reflected in the fact that 1,487 persons took advantage o the Relocation assistance program during the first 4½ years of its operation beginning in 1952, and including 410 persons relocated on permanent railroad section work. During that period, of 488 units (totaling 1,066 persons and excluding those involved in railroad work) who relocated, 62.9% remained at the point of relocation on January 1, 1957.

These statistics, and others appearing in the Appendix, were develope by Mr. Robert Cullum, Gallup Area Relocation Specialist, in connection wit a study of the characteristics of Navajo relocatees or by the Field Relocation staffs.

The Relocation Program is one of growing importance with respect t Navajo economic improvement, and in the budget for fiscal year 1958, th Tribe included, for the first time, an item of $50,000 to provide free vocational training opportunities for Navajo young people. Upon completion o that training, these young men and women will no doubt seek a livelihoo independently of Reservation resources, through the Relocation Program or independently.

With reference to the growing exodus from the Reservation, it is significant that, of 499 Special Program graduates from Sherman Institute during the period 1951-56, inclusive, 218 have been placed in jobs located outside the Reservation; similarly, of 519 graduates from the same Special Navajo Program at Intermountain during a similar period, 294 have been employed outside the Reservation. Similar proportions obtain with relation to other special program schools, with the result that, of 1,228 graduates from Sherman, Intermountain, Albuquerque and Chemawa during the period 1951-56, 617 or 50% have been placed in jobs off the Reservation. Of the remainder, 89 or about 7% entered the Armed Forces, some entered other schools or remained off the Reservation in other capacities, and 255 or 20% returned to the Reservation as housewives, etc.

A survey of the Navajo population to determine the number of employable persons, to catalog work skills, to determine present income levels, and for allied purposes is urgently needed.

Information provided by the San Francisco Relocation Office indicates a wage range of $1.00-$3.12½ per hour for Navajos relocated in the Bay Area. The average wage for men is $1.79 per hour, and that for women is $1.00 per hour. Most placements for females affect graduates of the Navajo Special 5-Year Educational Program at Intermountain, and involve domestic service.

In the San Jose area, wages range from $1.50 to $2.35 per hour, with an average at about $1.82 for 34 relocatees employed on an hourly basis in automotive and other industries in the area. Of 12 Navajo relocatees who returned to the Reservation, average hourly wages were $1.86 per hour, with a range of $1.65-$2.10.

St. Louis is a relatively new relocation area, having been opened during 1957. The Field Relocation Office there indicates that, for 8 Navajo reocatees in the St. Louis area, salaries range from $1.25-$1.69 per hour, with an average at approximately $1.45 per hour. This average will increase as employees gain seniority and receive wage raises. The average starting wage n the St. Louis area is $1.45. Board and room for single relocatees averages $15.00 per week, while some of the families are housed in public housing, paying an average rental of $55.00 per month.

In the Chicago area, during the early part of 1957, a program was initiated involving relocation of Navajo and other Indian workers and their amilies in the smaller industrial communities including Elgin, Waukegan, Gary and other similar communities near Chicago. Prior to that time only 8 units, including 29 single persons and 9 families, had gone to Chicago. Wages received by 35 Navajos relocated in the Chicago area during 1956 and paid on an hourly basis range from $0.90-$2.01 per hour, with an average at about $1.47. The low wage of $0.90 per hour was paid a beginner whc was placed in maintenance work in a department store. Four relocatees paid on a monthly basis receive pay ranging from $150-$200 per month, with ar average at $162.

In the Denver area, wages range from $1.00-$3.00 per hour, with ar average at $1.48.

In the Los Angeles area, beginning wages range from $1.00-$2.22 pe hour for males, with an average at $1.69, and from $1.00-$2.00 for females with an average at $1.11.

Work performed by Navajo relocatees runs the gamut from unskillec labor to semi-skilled and skilled work. There are Navajo maintenance men dock workers, welders, multilith operators, painters, carpenters, janitors kitchen helpers, bus boys, mechanics, parts sorters, riveters, truck drivers and others, through a wide range of activities.

RELOCATIONS — FISCAL YEAR 1957

	Single Men	Single Women	Family Units	Persons in Family	TOTAL Units	Person
Regular Program (to cities)	232	27	148	581	407	840
Railroad	1	0	8	37	9	38
Industrial Development	9	11	36	146	56	166
TOTALS	242	38	192	764	472	1044

11. TELEPHONE AND RADIO COMMUNICATION SYSTEMS

There is no commercially operated telephone system on the Navaj Reservation, and the existing system is one developed and maintained by th Branch of Communications of the Navajo Agency.

Prior to the period 1932-36, there were few telephones available in th Navajo country, and communications were extremely slow and uncertai During the period in reference the Navajo Agency was consolidated, th Reservation area was divided into 19 Land Management Districts under th supervision of District Supervisors, and a system of Reservation dayschoo was constructed. These developments brought with them a need for in proved communications, with the result that about 1500 miles of pole line were installed to link Reservation communities and field staff with Agenc headquarters at Window Rock. The linkage was achieved through the install tion of seven small magneto switchboards at major Reservation communitie and a modern common battery system with manual operation at Windo Rock.

Expansion continued with the installation of an automatic switchboard in the Fort Defiance hospital in 1937 and the construction of toll lines between Window Rock and Fort Defiance, bringing to about 500 the number of interconnected telephones serving the Reservation area.

During the war years little or no expansion took place, but the need for additional services was incorporated into Long Range planning, and $250,000 was authorized for appropriation under the Long Range Act. To meet the need for improved communication to serve new schools and other facilities growing out of the Long Range Program, a general plan was developed for the complete reconstruction and modernization of the telephone system.

The total amount authorized by the Long Range Act was made available during the period fiscal years 1951-53, inclusive, and in conjunction with added funds available from regular appropriations this money was used for the installation of automatic dial systems at Tohatchi, Shiprock, Fort Wingate, Crownpoint, Keams Canyon, Window Rock, Chinle and Tuba City.

Actually, the general plan was divided into 5 phases of development, occupying a 5-year period of time, financed as follows from Long Range and regularly appropriated federal funds:

Allocated, 1951-53, incl.	$250,000
Allocated 1954-55, incl.	170,000
Total	$420,000

In addition to the improvements listed above, an automatic wide dial conversion was completed at Chinle in 1955 at a cost of $34,400, and an automatic switchboard was installed at Kayenta in 1956 to serve the new chool, at a cost of $10,000.

Added expansion of the telephone system is proposed for completion during the period fiscal years 1958-63, to maintain the communications sysem abreast of school and other developments.

In the absence of telephone lines, radio transmitting and receiving quipment was installed in 22 trailer schools during fiscal year 1956, for use ntil telephone communications can be established. Wherever trailer school perations are converted to a permanent basis, telephone lines are provided.

Appropriated funds are not required for the operation and maintenance f the telephone system, which is supported by the users in the Reservation rea.

12. REVOLVING LOAN FUND

The Reservation land is not owned individually by the people who use it nd live upon it, but rather the ownership is collective, with the title held in ust for the Tribe by the Federal Government. Traditional use rights of pecific families in specific areas are recognized by their neighbors and by

The revolving loan fund provides a Source of Credit for the Construction - - - -

Of new housing and productive business enterprises on the Reservation.
Photo by James Bosch

the Tribe, but those rights are not vested legally in the individuals or family groups concerned, and they cannot sell or alienate the land involved. Consequently, many individual Navajos who have no other acceptable collateral, are unable to secure credit from commercial sources for home improvement, business, and other productive purposes. Even Navajo veterans were unable to benefit on a par with other citizens from the so-called "GI Bill," a fact which, coupled with the Reservation economic crisis after World War II, gave rise to the authorization for appropriation of $5,000,000 to serve as a revolving loan fund under the provisions of the Long Range Act. Money appropriated under this authorization could be used by individual members of the Navajo and Hopi Tribes, or by Tribal organizations to finance productive enterprises.

During fiscal years 1952-53, a total of $1,800,000 was appropriated for credit purposes, and no additional funds have been appropriated subsequently.

Beginning in 1948 the Tribe operated a small scale loan program, governed by the provisions of the Code of Federal Regulations, title 25, Part 21, and administered by the Advisory Committee, utilizing Sawmill funds for loan purposes. In the latter part of 1949 an ordinance was adopted by the Tribal Council naming the General Superintendent of the Navajo Agency as attorney in fact for the Navajo Tribal Credit Committee, empowered to repossess property purchased with borrowed money by persons delinquent in repayment of loans granted to them. In 1950, the Council authorized the creation of a Loan Committee to assist the Credit Committee (i. e. the Advisory Committee) in conducting the loan program.

By resolution of September 8, 1949, the Advisory Committee authorized the filing of an application for a loan of $500,000 from the United States, a und which became available in 8 separate allotments of money during the period January 5, 1950 to June 27, 1951, at 1% interest. Subsequently, on June 6, 1952, the Navajo Tribe borrowed an additional amount of $200,000 for credit purposes at 2% interest.

In addition, from July 13, 1950 to June 30, 1953, the Tribe contributed total of $393,443.06 of Tribal funds for use in the credit program, of which 100,000 was appropriated primarily for drouth relief purposes. Since 1953 he Tribe has withdrawn a total of $249,667.31 of the Tribal contribution, eaving a residue of $143,775.75 in addition to the $700,000 borrowed from he Federal Government. The Revolving Loan Program is thus financed at resent in the total amount of $843,775.75. No additional money has been orrowed by the Tribe.

To June 30, 1954, 704 loans, totalling $461,991.48, were made by the Navajo Tribe to individuals and $738,973 was loaned to Tribal enterprises, om the Revolving Credit Fund. However, difficulties attendant upon collection of outstanding loans made it necessary to close the program in 1953 pending development of improved procedures for the collection of delinquent accounts, and more stringent regulations to govern the credit program in the future.

The new regulations were drafted cooperatively by the Tribe and the Bureau and approved by the Tribal Council on June 24, 1955, after which the Advisory Committee acted to revise the Plan of Operation of the Revolving Loan Program to bring it into conformity with the new regulations and procedures. Subsequently, the Tribal Council amended the Law and Order Regulations to provide more adequately for the foreclosure of mortgages by the Tribal Courts, and to enforce the terms of mortgage contracts to prevent the unauthorized sales of property upon which the Tribe (or other creditors) hold a lien. The interest rates for operating loans (purchase of seed, grazing permits, business equipment, etc.) were raised to 5%; and building, land purchases, land improvement, and Tribal enterprise loans (construction of business buildings, land levelling, etc.) to 4%, from a previous rate set at 3% for both types of loans, while the rates for educational loans remained at 2%. Also, Tribal policy was more closely defined with respect to the granting of loans for home construction or major repair purposes. In the latter regard, no loans are granted for structures located outside the Reservation except in the peripheral towns or on allotted or deeded land, and then only if the applicant can show evidence of inability to secure credit from commercial sources.. Home construction and improvement loans are available within the Reservation boundaries for sites located near profitable industries and enterprises, within Tribally approved townsites, or at similar locations where structures have a rental or resale value.

The Tribal Credit Program is not an activity carried on for purposes of competing with existing commercial sources of credit, but rather as a supplement thereto designed for the benefit of those individuals who cannot satisfy their credit requirements from banks, finance companies and government lending agencies. Applicants must demonstrate their inability to arrange for credit elsewhere when they apply to the Tribe.

The Navajo Revolving Loan Program is primarily a Tribal operation, not only by virtue of the fact that the capital involved was borrowed or otherwise provided by the Tribe, but also in view of the fact that the Tribe, through its Local and Central Loan Committees, processes the loan applications. All applicants are first reviewed at a local community level by Tribal officials who are personally acquainted with the applicant. The Local Committeemen may reject or recommend applications for approval and, in the latter case the application is presented to the Central Loan Committee for disposition. The Central Loan Committee, composed of three members of the Tribal Council may approve the request for a loan and forward it to the General Superintendent, as the trust officer for the Tribe, for final disposition.

The Revolving Credit Program has been invaluable to Reservation economy, facilitating the entry of individuals into productive business enterprises, farming, stock raising and other sources of livelihood. Secondarily, the Tribal program prepares Navajos to obtain credit from non-Tribal sources and maintain an acceptable credit rating.

Since the reopening of the Credit Program in August of 1955, 128 new loans have been granted, as summarized below:

57	Agricultural loans	$ 71,726.15
40	Educational loans	39,204.16
8	Business loans	49,902.72
15	Housing loans	43,739.66
8	Miscellaneous	11,012.97
Total — 128		$215,585.66

Repayments during fiscal year 1957 on loans outstanding, both in the form of interest and principal, totalled $56,445.71 from individual borrowers and $109,760.06 from Tribal enterprises. There are presently 263 individual loans outstanding, representing an unpaid balance of $258,247.01, and eight Tribal enterprise loans in a total of $406,845.

To June 30, 1957, a total of 845[1] individual loans have been made in a total amount of $698,104.81. Of these approximately 3% of the individual borrowers have failed to repay their loans, and 0.7%, or $4,583.61, of the total amount loaned has been written off as a loss.

13. HOUSING AND NECESSARY FACILITIES AND EQUIPMENT

As an adjunct to the many developments contemplated under the Long Range Program, it was conceded that adequate housing for necessary staff was a prime requisite, and the appropriation of $820,000 was authorized for necessary housing construction. Of this authorized total only $26,300 has been made available, and this amount was used for the development of resettlement housing at Colorado River. In addition, quarters have been provided as an integral part of school construction, but few quarters have been provided apart from such construction with the result that many Bureau programs are seriously hampered.

At Window Rock headquarters there would be a great advantage to over-all programming if all Navajo Agency Branches and activities could be provided necessary office and quarters space, but this is not possible, with the result that the Branch of Roads and the Irrigation Section must be headquartered in Gallup. Similarly, at Subagency Headquarters, unavailability of necessary housing prevents full staffing of the Subagencies. At

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(1) Including 9 educational and 4 emergency regular loans totalling $20,527.67 made during the period when the loan program was officially closed.

Tuba City, during March of 1957, there was no Welfare representative because no quarters were available. Similarly, at Fort Defiance and elsewhere lack of quarters limits necessary staff, often below minimum requirements for efficient operation.

The 20-year Soil and Moisture Conservation Program is seriously hampered by lack of housing for the field staff necessary to carry out the long range program so necessary to place agricultural resources of the Navajo Reservation on a sound management and use basis in preparation for the withdrawal of Federal services and the full transfer to the Navajo Tribe of responsibility for resources management.

14. COMMON SERVICE FACILITIES

The Long Range Act authorized the appropriation of $500,000 for the construction of warehouses, garages, and similar common service facilities, of which $495,100 was made available for construction of a warehouse at Gamerco, New Mexico, and at Keams Canyon, Arizona. During the early years of the Long Range Program the Gallup (Gamerco) Warehouse was operated by the General Services Administration, but during fiscal year 1956 the use of contract arrangements with private industry for Reservation construction obviated the need for these warehouse services, and the facility was taken over for use in a centralized food preparation and distribution program serving the Navajo schools.

Welfare: It has been pointed out in the discussion of Navajo economy in the introduction to the section entitled Off-Reservation Placement and Relocation, and elsewhere in the present report, that the Navajo people are in the process of a deep-seated social and economic revolution, moving since the mid 1930's toward a wage economy and comparative independence of Reservation resources in contrast with the heavy dependency on Reservation farming and stockraising that characterized Navajo society in preceding decades.

Within the total Navajo population, about 8% probably fall within the age group 55 years and over, assuming the same relative percentage today as that reported by the Bureau of the Census in 1950. Of this group, totaling nearly 6,500 persons, many lack education and work skills, as well as adequate agricultural resources on the Reservation; these require and are eligible for welfare assistance under the Social Security Program administered by the State Departments of Public Welfare and subsidized largely by Federally appropriated funds.[1]

In addition, persons not eligible for assistance under the Social Security Program; defective, handicapped or abandoned children, and other persons need temporary financial aid of the type provided by the Bureau of Indian

(1) See Appendix under Welfare for statistical data.

Affairs from General Assistance and Child Welfare funds. This type of assistance is rendered through the Navajo Agency Branch of Welfare, financed during the 18 month period January 1956 to June 1957, inclusive, by allocations of $288,087 of federal funds and $50,500 in a supplemental emergency appropriation by the Navajo Tribe. Social workers employed by the Agency Branch also provide counseling services, investigate cases for the courts, and perform other social service functions.

The Navajo Agency employs 6 social workers stationed at the subagencies, assisted by Navajo Case Aides who serve as interpreters and in other capacities. The work of the Welfare workers is coordinated by the Chief of the Branch at Agency Headquarters, who also provides technical guidance, although they function under the immediate supervision of the Subagency Superintendents.

General Assistance: The flow of applications for financial assistance and case work services continues to show a steady increase, as reflected in the following statistical data embracing a six month period January to June, 1955 and 1956, and the period July 1956 through March 1957:

Month	F. Y. 1955	F. Y. 1956	Month	F. Y. 1957
January	55	119	July	61
February	69	104	August	52
March	58	76	September	48
April	47	70	October	59
May	42	75	November	56
June	58	58	December	81
	—	—	January	92
	—	—	February	150
	—	—	March	337

During the 1956-57 fiscal year, an average of 502 persons received general assistance each month from federal funds, with an average monthly grant of $32.23, and during the 4 month period from December 1956 through March 1957, an average of 658 persons received similar aid from the Navajo Tribe with average grants of $16.89 per month. As one would presume, the demand for general assistance fluctuated with seasonal employment opportunities, decreasing as agricultural work opened in the late spring, and increasing during the winter months. The aid from the supplemental appropriation voted in 1957 by the Tribal Council primarily assisted unemployed persons.

Many adult Navajos requiring welfare assistance are potentially employable, but lack of knowledge of English, and lack of training or work skills makes it difficult or impossible to place these individuals.

There is another and rapidly growing group of persons within the popuation who are dependent on welfare because of the unavailability of suitable work. These are the arrested tubuculars discharged from the sanitaria. The precise number of individuals in this category is unknown, but records at the Tuba City Subagency disclose the fact that, of 120 relief applicants to whom assistance was granted, 43 were unable to work because of conditions related to health.

Many Navajos who are eligible for welfare benefits under the Social Security Program administered by the States do not actually establish their eligibility, or for other reasons they do not receive assistance. Lack of staff necessary to establish contact with such persons, delays in the processing of applications and other factors are involved. To the extent possible, the Navajo Agency Welfare staff assists eligible applicants to secure required documents and complete their applications as required by the State Departments of Public Welfare, although in assuming this added burden of responsibility there is less time to devote to those categories of needy persons falling within the scope of the Agency Branch of Welfare.

In February of 1956 a conference was held with representatives of the New Mexico State Department of Public Welfare with the result that distribution of surplus commodities was initiated to Navajos residing in San Juan County, in addition to the program already underway in McKinley County. A similar conference was held with Utah State representatives, but lack of suitable storage facilities has prevented the undertaking of a similar program for the benefit of Navajos resident in the southeastern portion of that State. There is no program for the distribution of surplus commodities in the Arizona portion of the Reservation.

Child Welfare. The Child Welfare program is carried on by the Subagency Welfare staff. It is an important and urgently necessary aspect of the total Welfare program, especially with the increasing tempo of tuberculosis case finding and hospitalization with its attendant demand for foster home care of the children of patients. Likewise, the number of neglected and abandoned children does not diminish, as reflected by the fact that, during the 3-month period January-March, 1957, 12 neglected or abandoned children were placed under care in foster homes, and a total of 58 children were under such care during 1957.

Lack of available housing creates an insurmountable problem in the recruitment of necessary staff, both with respect to Welfare and with regard to other activities.

A total of 46 children are supported in state schools for the deaf and blind from federally appropriated funds totalling $56,505 in 1957.

Adoption inquiries are frequent, and are processed in accordance with a Tribal ordinance patterned after state practices. Nine adoptions were pending at the close of fiscal year 1957.

The following summary of federally appropriated money made available for Welfare purposes will permit comparison with preceding years.

Fiscal Year	General Assistance	Child Welfare
1951	$184,700	$20,010
1952	$163,000	$25,520
1953	$158,400	$67,640

Fiscal Year	General Assistance	Child Welfare
1954	$156,750	$68,800
1955	$151,260	$81,338
1956	$194,613	$84,790
1957	$199,615	$88,472

The Navajo Agency Branch of Law Enforcement. The Branch of Law Enforcement receives no funds appropriated under any authorization of the Long Range Act, and is an activity financed primarily by the Navajo Tribe. The General Superintendent remains, by law, responsible for law and order on the Reservation, and the Branch operates under the direction of a Federal employee responsible to the General Superintendent.

Law enforcement in the Navajo County is primarily the responsibility of a 99 man police force, but officers of the ten counties in which portions of the Navajo Reservation are located, in three states, cooperate to the extent that state laws and courts possess jurisdiction in specific cases or situations. In addition, the New Mexico and Arizona State Highway Patrols, the Federal Bureau of Investigation, and local law enforcement agencies contribute to the maintenance of order in and about the Navajo Country.

The Branch of Law and Order, broadly speaking, is organized in two major divisions, Enforcement (the police force) and Judiciary (the Navajo Courts of Indian Offenses), of which only the first mentioned is supervised by the Chief of the Branch.

1. **The Division of Law Enforcement.** Since the fiscal year 1953 when the Navajo Tribe appropriated $32,669 with which to hire and equip 6 Navajo officers for duty in the "checkerboard area" of allotted lands east of the Reservation boundary in New Mexico, the police force has been in a process of continuous growth and reorganization, as reflected by Tribal appropriations for this purpose during the period 1953-1957.

Fiscal Year	Amount appropriated by Navajo Tribe for Law Enforcement
1953-54	$ 32,669
1954-55	126,896
1955-56	243,267
1956-57	378,080
1957-58	586,821

The responsibility for enforcement of the law and maintenance of order n the Navajo Country is rapidly being assumed by the Navajo Tribe. In

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1) Child Welfare includes the institutional care of mentally defective and physically handicapped Navajo children, of whom 43 were under care at the close of fiscal year 1957.

fact, it was formerly a responsibility for which Federal appropriations were too meager for effective operation, and it has only been in recent years that a more adequate police force has been available. The Branch still includes 6 Federal employees in addition to the Branch Chief, but it is the policy to abandon positions supported by Federal appropriations as they become vacant, reestablish and fill them as Tribally supported positions, and use available Federal money for purposes other than the support of personnel. Of the total Law Enforcement Staff, throughout the Navajo Country, 108 positions are supported by the Tribe and 7 are supported from Federally appropriated funds. Of the total 1958 fiscal year Tribal appropriation of $586,821, over 71%, or $418,396 is designated for the payment of personnel. The 1958 fiscal year appropriation provides an increase of $129,123 for personal services, required to raise the salaries of incumbents and establish 15 new positions of which 10 will be patrolmen, one a juvenile officer and the remainder clerical, administrative and technical.

Following organization of the 5 Subagencies, the Branch of Law Enforcement decentralized its operation to provide a District Police Captain, enforcement and other personnel at a Subagency level. The District Police Captains exercise complete control of the Police activity within their respective jurisdictions, and are responsible to the Chief of the Branch at the Fort Defiance Headquarters. When major crimes occur in the Reservation Police Districts, personnel from the Headquarters Criminal Investigation section are called to assist in carrying out necessary investigation.

Communications throughout the Reservation are expedited by a radio system linking Branch Headquarters, the District Headquarters, and the mobile police units. The Police Districts also maintain substations at strategic locations, each of which is responsible for the maintenance of order within a radius of 50-75 miles.

Court and jail facilities are maintained at each of the District (Subagency) Headquarters, although these remain almost totally inadequate to meet present day requirements.

The radio network financed by the Navajo Tribe in the interest of efficient law enforcement throughout the 24,000 square mile Reservation area, is one of the largest in the United States. It includes 4 land-based transmitting stations, 3 repeater stations and over 50 mobile units. Portable pack sets are also available when required. Maintenance of the system is provided by a Tribally employed technician.

The police force is composed of 99 officers, almost all of whom are Navajos. Recruits receive extensive initial basic orientation and continuous training thereafter in the form of police schools at which other law enforcement agencies, federal and state, render assistance. Basic training classes are held for a two-week period every six months. The fiscal year 1958 Tribal

Budget provided funds for the employment of a Plans and Training Officer who will assume responsibility in the future for police training.

In any community the training of police is important in the interest of good law enforcement. In the Navajo Country it is even more important than elsewhere because of the peculiar status of "Indian Country" so far as the application of Federal and State law is concerned. At an earlier period in our national history Indian Tribes were considered as sovereign groups whose rights to control their own internal affairs were recognized by the Federal Government in treaties and in policy governing the conduct of Indian affairs. However, beginning in 1885 and extending through 1932, Congress took from Indian Tribes the right to punish members for the "10 major crimes" (murder, manslaughter, rape, assault with intent to kill, arson, burglary, larceny, robbery, incest and assault with a dangerous weapon). In 1957 the crime of embezzlement of Tribal funds by a Tribal member was taken from the jurisdiction of Tribal Courts and made a Federal offense. The 10 (now 11) major crimes must be tried in Federal Courts, although petty larceny continues within the jurisdiction of Tribal Courts, and there are some other areas of concurrent jurisdiction by the Indian and the Federal Courts.[1]

East of the Reservation boundary there is an area of Navajo allotted lands interspersed among state, railroad, private and public lands. Crimes or infractions of the law in this area, as committed by Navajos, give rise to many complex jurisdictional problems offset only in part by the fact that patrolmen in these areas carry commissions as Deputy Sheriffs, and as Special Officers of the Bureau of Indian Affairs. When major crimes occur on trust land, they fall within the jurisdiction of the Federal courts; when they occur on State or other types of non-trust land, the State courts have jurisdiction. Since the myriad boundaries are not marked, there usually arises a question of what court has jurisdiction. Likewise, State highways traverse portions of the Navajo Reservation at several points, creating jurisdictional problems. All in all, these facets of law enforcement in the Navajo Country require thorough and continuous training of enforcement personnel.

All Navajo police officers are fully uniformed and the Tribe is making a great effort to forge a law enforcement organization adequate and able for the protection of the Navajo people and the enforcement of the law in the Navajo country.

The Criminal Investigation staff is composed of four Criminal Investigators and one technician. The latter, trained by the FBI, is responsible for he identification bureau operated by the Criminal Investigation Division. t is the responsibility of personnel of this Division to investigate all major crimes which take place within the area under their jurisdiction, correlating heir work with that of other law enforcement agencies. The Identification

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[1] See Appendix, Law and Order, for tables indicating major crimes declined for prosecution by Federal Courts and referred to the Courts of Indian Offences.

Bureau or Section was established in fiscal year 1957, and currently 6,000 Navajos, arrested for various causes, have been finger printed. The Sergeant in charge of identification is also developing a photographic file of offenders, and a card file in which summary information is noted in regard to cause for arrest and disposition of each case.

As another major aspect of modernization and streamlining of the law enforcement program, a modern police filing system is nearing completion by the Remington Rand Corporation, employed under contract by the Navajo Tribe.

A next step may well be the provision of adequate structures in which to house Reservation courts and jails. They are presently housed in decrepit buildings in such a state of disrepair that remodeling is impractical and uneconomic.

2. **The Tribal Judiciary.** The Navajo Courts of Indian Offenses are situated at Fort Defiance, Chinle, and Tuba City in Arizona; at Shiprock and Crownpoint in New Mexico, and include scheduled circuits to neighboring communities from these points. Seven judges, chosen by the Navajo electorate at 4-year intervals preside over the Courts, of which one is designated as Chief Justice.

The Navajo Court system was established in conformity with the regulations contained in Part 161, Chapter 1, Title 25, CFR, and is entirely financed by Tribal funds appropriated annually by the Tribal Council.

None of the judges in the Tribal Courts hold law degrees, but they receive training at a monthly conference conducted by an attorney employed by the Tribe. As a result of this continued training, the trend over the course of the past 3 years has been toward formalization of court procedures. Thus, for example, the Chief Justice schedules appeals and designates 3 Associate Judges to sit as an Appellate Court when required, designates Judges to try a case where change of venue is requested and justified, etc.

The Navajo Courts of Indian Offenses retain jurisdiction in all cases at law involving Navajos within the Navajo Country except for the trial and punishment of offenders charged with one of the major crimes. The major crimes, enumerated in Sec. 1153 of Title 18, USC (plus the crime of embezzlement of Tribal funds by a member of an Indian Tribe), fall primarily under the jurisdiction of the Federal Courts if committed on trust land. Within the purview of the Navajo Courts fall civil suits, probate of estates, divorce, adoption, child custody, and infractions of the law as set forth in the Navajo Law and Order Code. These include misdemeanors, drunkenness, disorderliness, simple assault, and battery, failure to support dependents, petty larceny, juvenile delinquency, etc. The Courts of Indian Offenses do not assume jurisdiction of any cause for action involving a non-Indian as defendant although in specific instances (e. g. civil suits involving indebted-ess of an Indian defendent, recovery of mortgaged property, etc.) a non-ndian may bring suit against an Indian in the Navajo Courts.

Growth and reorganization of Reservation law and order institutions enerally have brought with them a need for revision of the Code of Laws nd modification of the court system. To some extent this has been accom-lished, and the Tribal Legal Department has the matter under study looking o the early realization of those changes in the present organization which re required to fully adapt the Reservation Courts and court procedures to he modern requirements of the Navajo community.[2]

THE BRANCH OF REALTY

Although the problems and responsibilities of the Bureau of Indian ffairs in the management of Reservation land were not recognized as an spect of the Long Range Program, the Branch in reference performs a aluable function in connection with the sale, exchange, partition, patenting nd leasing of tribal and allotted land. These functions include the securing f bids for the lease of lands desired for mineral, oil and gas development, he granting of rights of way, permits for farming and for mineral exploration.

The Navajo Agency Branch of Realty administers the trustee responsi-ility of the Federal Government in these connections in the Navajo Country, n area of more than 15,000,000 acres, including 700,000 acres of allotted and located in the States of New Mexico, Arizona, and Utah. Such land annot be sold, encumbered or otherwise alienated without the approval of he Secretary of the Interior.

Approximately 92% of the 700,000 acre area of allotted land lies out-de the exterior boundaries of the Navajo Reservation, and is interspersed mong areas of private, state and federal lands. Of the total allotted area, 7% is in heirship status and not probated, with a growing heirship fractiona-on problem reflected in the fact that some of the allotments already have s many as 125 heirs whose fractional shares are almost infinitesimal.

The checkerboard pattern of the allotted and non-Indian lands, coupled ith the problems of inheritance, create a formidable barrier to proper man-gement and utilization of these lands. It is the intention of the Branch of ealty and the Navajo Tribal Government to effect a consolidation of these nds through sale, exchange, land purchase and other expedients, some of hich require enabling legislation by Congress. Legislation is currently pend-g to permit certain land exchanges between the Navajo Tribe and the ureau of Land Management, involving 250,000 acres.

There are between 600-1000 estates which remain to be probated, presenting a problem which has grown steadily through the years while the ealty Branch was not adequately staffed to cope with it. The Navajo Tribe has recently taken an active part in strengthening the staff to attack problems of land exchange, sale and purchase, as well as to expedite the leasin of areas desired for mineral, oil and gas development. The Navajo Tribe during fiscal year 1957, supported 2 positions in the Branch of Realty, and Tribal Section of Land Use and Surveys under the tribal organization prope with responsibility for carrying out necessary research involving tribal an allotted lands. The number of staff members within the Agency Branch supported by the Navajo Tribe will be increased in 1958.

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[2] See the Appendix under Law and Order for statistical data.

For fiscal year 1957, $51,118 of regularly appropriated federal fund was available for the support of the Navajo Agency Branch of Realty.

THE BRANCH OF PLANT MANAGEMENT

The Branch of Plant Management is responsible for planning, programming and directing activities related to management, operation, maintenance custodial services, repair and improvement of plant facilities including buildings, structures, heating and power plants, individual heating systems, utilit systems, grounds, communication systems and the utilization of: buildings structures, utility systems, fixed equipment and plant facilities for Bureau o Indian Affairs installations located on the Navajo Reservation and periphera locations.

The repair and maintenance of buildings and utilities is among the mor noteworthy activities performed by the Branch of Plant Management.

Although expansion of certain schools and other buildings and facilitie was included in the Long Range Navajo-Hopi Rehabilitation Program fund for repair and maintenance have been provided only under the regular program. During F. Y. 1957 $588,989 was allocated to the Navajo Agency fo Maintenance and Repair, $70,000 was allocated for Major Repairs and Improvements and $1,120,000 for Operation, including power, heat and light This was the total amount expended in F. Y. 1957 for operation, maintenanc and repair of all facilities under the jurisdiction of the Navajo Agency whic consists of 2,000 buildings having an area of 3,600,000 square feet and 2,70 separate utility systems at stations distributed over an area of 30,00 square miles.

Although approximately 700,000 square feet of buildings together wit necessary operating utilities installations have been completed since F. Y 1956, allocations for maintenance and repair funds have not been increased During this same period maintenance and repair costs have substantially increased. Each new facility constructed spreads even thinner the amoun available for maintenance.

THE BRANCH OF FORESTRY

Through the Navajo Agency Branch of Forestry the Bureau of India Affairs exercises its trust responsibility for the protection and managemen of the Navajo timber and woodlands resource. The Branch activity receive

o allocation of funds appropriated pursuant to the provisions of the Long
ange Act, but in fiscal year 1957, $68,412 of Federally appropriated funds
vere available for the forestry operation. In addition, $36,700 of Tribally
ppropriated funds was contributed by the Navajo Tribe for fire-presup-
ression and other purposes. Indirectly and directly the Navajo Tribe bears
major part of the cost of managing and protecting the Tribal forests inas-
nuch as, by federal regulation, 10% of all stumpage earned is deducted
ach year to offset management costs. In fiscal year 1957, the Tribe received
pproximately $300,000 in stumpage of which 10% or $30,000 was de-
lucted by the Federal Government. If we discount this deduction, the
ribe actually received only $38,412 in gratuity funds from the Federal
overnment, while it contributed $36,700 of Tribally appropriated money,
lus the administrative deduction for management, or 63% of the $105,112
epresenting total funds available for forestry.

The Branch employs a staff of 30 technicians, fire control and other
ersonnel, of which the salaries of 17 are subsidized by the Tribe although
he individuals involved have civil service status and are carried on the
ederal payroll.

In fiscal year 1957 an additional sum of $2,300 was allocated under the
rovisions of Public Law 110 to provide additional funds for forest insect
nd disease control.

The tribal forest, so far as merchantable timber is concerned, represents
bout 2,135,000,000 board feet of ponderosa pine and 46,000,000 board
eet of other conifers, located largely in the Fort Defiance Plateau, Tsaile
nd Chuska areas; and occupying between 400,000 and 500,000 acres of
eservation land.

The tribal timber resource is managed on a sustained yield basis—that
, the cutting of timber is so controlled that the land has an opportunity to
eforest itself, and the forests remain available indefinitely. At present, the
mber resource is worth at least $30,000,000, and present logging and forest
anagement operations provide a livelihood to about 300 Navajo people.

At present, over-ripe timber represents a net loss to the Tribe of about
5,239,000 board feet, or nearly as much as is harvested and used each
ear by the Tribal Sawmill (17,186,180 board feet in fiscal year 1957). Cog-
zant of these annual losses, desirous of obtaining an accurate inventory and
ther knowledge of its vast timber stands, and desirous of capitalizing on
very available and potential Reservation resource to provide a livelihood
r as many Navajo people as possible, the Tribe employed a firm of Timber
onsultants in 1955, who conducted an "Economic Development Study for
e Navajo Timberlands."[1]

) Completed October, 1956 by Hammon, Jensen, Wallen and Rambo, Timber and Forest Products Consultants retained by the Navajo Tribe, and based on a "Master Plan for Timber Management, Navajo Indian Reservation" previously prepared by the Branch of Forestry.

This study revealed the fact that the timber resource is more extensive than it had previously been thought to be, and recommended that the Tribe construct a new sawmill to increase the annual cut to approximately 50,000,000 board feet for the next 25 years, including a cut of 15,000,000 to 20,000,000 board feet by the present sawmill.

Although the manufacture of lumber for Agency, school and other construction purposes commenced in 1880, timber products were not produced as the basis for a profitable industry until 1944. Since that date the Sawmil has been operated as a Tribal Enterprise. It has been expanded since 1946 to permit a greater annual cut of timber (17,186,180 board feet in 1957), and mill improvements include battery dry kilns and planing mill. The sawmill and woods operations provide work for about 300 Navajos, with an annual payroll of nearly $700,000. In addition about $300,000 was received by the Navajo Tribe from stumpage in 1957. The Tribal Mill is a member of the Western Pine Association.

NAVAJO TRIBAL PROGRAM

In the Appendix of the present volume, under **Navajo History,** there is a summary of the more important recent actions of the Navajo Tribal Council, some of which involve the establishment of Tribal Council Committees, Tribal Departments, Sections, etc., and a general description of the growing function of the Tribal Government itself and of its segments.

Tribal programs and activities during fiscal year 1957 are summarized below, both in the form of the 1957 Tribal Budget and in a brief description of the work of major Tribal Departments. It will be noted that the rapidly expanding Tribal program required numerous amendments to the 1957 budget over the course of the fiscal year as unforeseen requirements and opportunities necessitated the appropriation of additional funds. In fact, nearly half (about 47%) of the 1957 budget as finally approved by the Tribal Council consisted of amendments, although of a budget total of $6,626,416 only about $5,300,000 was actually expended in fiscal year 1957.

Although Tribal programs and departments parallel Agency organization and activity to a great extent, and although there is close collaboration between the Tribe and the Bureau in carrying out a combined Reservation program, there is no duplication of services between the two entities. Rather, the Tribe often fills gaps in the Bureau program in the interest of providing more effective service to Navajo communities. This will become apparent in the brief review of Tribal activities provided below.

1. **Law Enforcement.** Although the Bureau of Indian Affairs is responsible for the maintenance of law and order on the Navajo Reservation, 78.3% of the operating funds for the Branch of Law & Order were provided, in 1957, by the Navajo Tribe. The organization and structure of this important Tribe-Bureau function has already been discussed under the heading

he Branch of Law and Order, since the activity remains, technically, one nder the supervision of the Bureau of Indian Affairs.

2. **The Judiciary.** The Navajo Tribe, in 1957, provided $63,473 for the upport of the Navajo Courts of Indian Offenses at Fort Defiance, Chinle, uba City, Shiprock, Crownpoint and Ramah, including the salaries of 7 ribal Judges elected every 4 years by the Navajo Tribe in the course of eneral tribal elections. The base salary of the judges ($4,290) is subject to 5% annual increase up to 12 such annual increases.

During the fiscal year 1957, The Navajo Courts processed 8,660 criminal nd 359 civil cases, and imposed fines or collected court fees totalling 86,297. Most criminal cases involve drunkenness, disorderly conduct, simple ssault and battery, etc.

3. **The Tribal Mining Department.** Since the war years, mining has een an important industry on the Navajo Reservation, and especially so uring the past decade. In 1952 the Navajo Tribe established a Mining Deartment to (1) protect Navajo mineral resources, (2) assure mine safety, (3) aintain wages paid to workers in Reservation mining at a level comparable ith wages paid elsewhere for similar work, (4) determine royalties to be paid or minerals produced on the Reservation, (5) develop a base map of all ining properties in unsurveyed areas of the Reservation and (6) promote ining and milling operations within the Navajo Country.

The Mining Department has been instrumental in bringing to the Reseration a uranium ore processing plant located at Mexican Hat, Utah, conructed by the Texas Zinc Minerals Co. at an investment cost of $22,500,000. bout 225 Navajos were given employment for a year, in 1957, in the onstruction of the mill, which includes 40 houses for Navajo workmen, a wimming pool, a theater and a supermarket.

Another mill was previously constructed (1956) near Tuba City by Rare etals,Inc., at a cost of $2,500,000, and employing about 60 Navajo orkers. The Tribal Mining Department was also active in bringing this dustrial operation to the Reservation.

After careful study of Reservation mineral resources, the Mining Deartment, in 1953 recommended the withdrawal of a 500,000 acre area of eservation land with a high uranium mining potential. The Department laid e area out in tracts upon which lease bids were invited. The total cost of ork involved was $17,000, and from this investment a profit of $285,000 as realized by the Tribe.

In 1954, to stimulate interest in Reservation mining, the Mining Departent offered free 120-day drilling permits to interested parties, with the sult that the number of mining operators jumped from 3 or 4 in prior years 133 in 1954 and tribal income from mining increased in 1955 to $651,693 from $470,254 in the preceding year. In 1950 income from mining was only $65,755, and in 1951, the year before the Tribal Mining Department was established it was $151,204. From 1952 on it increased steadily, as shown in the summary table below:

INCOME FROM MINERALS, EXCLUSIVE OF GAS AND OIL
1950-1956

Fiscal Year	Uranium & Vanadium	Sand & Gravel	Coal	Totals
1950				
Tribal	$ 65,755.92	$ 328,67	0	$ 66,084.59
Allotted	0	0	0	0
1951				
Tribal	151,204.65	1,767.50	$ 402.70	153,374.85
Allotted	0	974.90	0	974.90
1952				
Tribal	299,212.34	1,757.38	3,072.66	304,042.38
Allotted	2,692.10	0	0	2,692.10
1953				
Tribal	470,254.17	1,452.30	3,450.19	475,156.66
Allotted	28,910.82	25,00	0	28,935.82
1954				
Tribal	656,837.13	3,177.38	3,423.12	663,437.63
Allotted	45,344.79	1,126.06	$	46,470.85
1955				
Tribal	651,693.40	2,535.99	1,408.93	655,638.32
Allotted	21,294.48	1,410.90	0	22,705.38
1956				
Tribal	548,537.00	1,237.62	1,982.65	551,757.27
Allotted	27,352.00	805.98	0	28,157.98

4. **The Chapters.** In fiscal year 1957, the Council budgeted a total of $78,690 with which to pay the expenses of Chapter Officers in conducting bi-weekly or monthly local meetings in 86 Reservation Communities, and to defray the cost of a three-day annual convention of Chapter Officers at Window Rock.

This is an important Tribal contribution to improved communications with the Navajo people, permitting the flow of vital information between Tribal government, the Bureau and the Navajo people. The Navajo Agency joins with the Navajo Tribe in sending representatives to local Chapte meetings, and in the conduct of the annual convention of Chapter Officers at Window Rock. Although individual programs and activities are explained and questions are answered at local meetings, the annual convention afford an opportunity to review in detail all phases of Tribe-Bureau planning and activity and to obtain the reaction of the local community leaders.

The following table summarizes local Chapter meetings by Subagency for fiscal year 1957, at which many subjects were discussed, including grazing ermits, irrigation, land, vaccination of livestock, dipping, boundary disputes, ducation, school construction, lamb-buying regulations, school lunch pro- ram, school dormitories, grazing fees, drouth, livestock feed, water develop- ent, mission sites, road maintenance, predator control, soil conservation, elfare, timber, sawmills, proposed Tribal Long Range Program, and many ther subjects.

SUMMARY
"Grass Roots" Relations with Navajos
As reported by the Subagencies from July 1, 1956 to June 30, 1957

Subagency	Number of Meetings	Adult Navajos Present	Council-men Present	Committee-men Present	Chapter Officers Present	Bureau Employees Present
Chinle	9	342	19	10	8	16
Crownpoint	49	2,231	54	5	127	91
Fort Defiance	79	5,419	148	122	110	166
Shiprock	65	2,425	63	21	129	156
Tuba City	35	1,710	37	9	66	76
Totals	237	12,127	321	167	440	505

5. **Clothing Purchase Program.** By 1955 many Navajo children were eginning to enter the peripheral town school dormitory program, involving ttendance at public schools, while others were walking in to the Reservation ay and other public schools. Due to economic limitations, many parents ere unable to purchase the warm, attractive clothing necessary to meet e requirements of these school situations, with the result that the Tribal ouncil voted $350,000, in fiscal year 1955, for the purpose of providing othing to all Navajo children enrolled in school.

The clothing was secured in wholesale lots, standardized in quality but varied design, color, cut, etc., and distributed through the school teachers ho cooperated in providing necessary measurements and in making out dividual clothing orders. Each order is filled, packed separately, and de- ered to the child for whom it was requested.

In fiscal year 1956 the Council voted $420,000 to continue the pro- am, and $500,000 for each of fiscal years 1957 and 1958, for a total to te, since the inception of the program, of $1,770,000.

The program involves all articles of apparel for boys and for girls, and e magnitude of the project is reflected in the following figures representing e quantities of representative articles purchased during the 1956-57 ool year:

Boys:	
Jeans	27,335
Shirts	21,185
Underwear	29,486
Shoes	14,785
Socks	55,953

Girls:	
Dresses	14,066
Jeans	11,335
Panties	24,939
Shoes	12,799
Socks	44,654

The over-all program, in the past school year, involved the ordering packing and delivery of 396,131 items of boy's and girl's clothing, at a tota cost of $498,285.

6. **The Higher Education Scholarship Program.** Realizing the urgent need for doctors, lawyers, engineers, teachers, nurses, accountants, bookkeepers and other types of trained personnel to serve the Navajo people and Tribe-Bureau programs generally, and desirous of filling as many of these needs as possible with Navajo men and women, the Tribal Council initiated a higher Education Scholarship Training Program in fiscal year 1954, with the appropriation of $30,000 in tribal funds. A year later, in fiscal 1955, the amount was increased to $65,000, and in 1956, and 1957 $100,000 and $130,000 respectively was provided.

In fiscal year 1958, $180,000 was provided, of which $130,000 was designated for professional training at a college level, and $50,000 for vocational and trade training. At the same time, a fund of $5,000,000 was set aside as a scholarship fund, to be invested and the interest and other earnings used for the higher education of outstanding Navajo high school graduates.

Of 177[1] scholarships granted during the period 1954-57, inclusive, the following professions and numbers of students in each category are disclosed by a cursory review of the records: pedagogy (59), nursing (37), premedical (9), medical (1), medical tecrnology (2), bacteriology (1), pre-lega (5), engineering (civil, electrical, etc.) (26), forestry (3), physics (1), range management (2)), social work (2), accounting (5), agriculture (5), business administration (8), commercial (12), .and drafting (1). To date, (July, 1957), 17 Navajo young people who were assisted with free tribal grants, have receive college degrees, and one will complete his degree work at the end of the summer school session. Those graduated include 14 teachers, one forester one nurse, one medical technologist and one who studied business administration.

The accelerated education program with relation to the elementary grades has not yet made itself felt at a high school and college level, and in 1957, there were still only 194 Navajo students graduated from all type of high schools. By 1962 there will be an estimated 500 and a year late this number is expected to more than triple, to produce an estimated 1,600 as high school graduation suddenly catches up with the increased scho enrollment starting with the Long Range Program in 1951, and given impetu by the Navajo Emergency Education Program in 1954.

In its beginning phases the scholarship program was not on a very selective basis because of the dearth of eligible applicants, but the competitiv nature of the program becomes increasingly intensive as the number of appli

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(1) Exclusive of those granted at the Second Session of the Scholarship Committee in August, 1957.

Housing and other structures on the Farm Training Project as viewed from the nearby Helium Plant.

Navajo farm trainees learn the use of modern farm equipment on the Farm Training Project.
Photo by James Bosch

cants grows in relation to available funds. In 1957, for the first time, scholarship applicants were required to take a standard college aptitude test, and in future years scholarship assistance will be available only to those students who show the greatest promise for success.

In 1957, for the first time, $50,000 of scholarship money was available to assist high school graduates to complete vocational and trade training, in recognition of the fact that all high school graduates do not wish to pursue professional careers. This is a long step forward, and a realistic one in the interest of Navajo youth and the future of the tribe.

7. **Range Management-Grazing.** Since 1952, Tribal Grazing Committees functioning at a district level, have assumed and exercised many responsibilities formerly borne by the Federal Government, including dipping, branding and tallying of livestock, the development and printing of grazing regulations, the transfer and sale of grazing permits, and similar work. To support the District Grazing Committees the Tribal Council budgeted $78,024 in 1957 for the payment of 66 Committee members in holding 72 meetings, and for other expenses.

8. **Water Well Maintenance.** Since 1953 the Navajo Tribe has gradually assumed responsibility for the maintenance of drilled wells, dug wells and springs in the Navajo Country, accepting an increasing number each year. In 1953, the Tribe assumed responsibility for the maintenance of wells and springs in Districts 5 and 7, and other Districts have been added year by year since that time until, in 1958, the Council provided funds for al wells and springs in Districts 4, 5, 7, 10, 11, 14, 17, 18, parts of District 16 and Ramah. By 1959, the Bureau will discontinue well maintenance funds and the Navajo Tribe will assume total responsibility for this work involvin a total of 335 springs, 242 drilled wells and 305 dug wells.

9. **The Shiprock Farm Training Program.** In 1956 a 1,200 acre area o irrigated farmland was completed on The Hogback Project, known as The Helium Unit and the Tribe accepted the responsibility for utilizing the newl developed area as a training center for future Navajo farmers. The Burea of Indian Affairs assists to the extent of providing technical guidance, bu the training program, management of the area, and other features of the work are financed by the Navajo Tribe which provided $230,000 for these purposes in 1957.

Persons thus trained in the techniques of irrigation farming will be wel equipped to make economic use of other areas of farmland as they are developed, including the larger Navajo Project.

10. **Insect, Predator and Disease Control.** Since December of 1956 when a special agreement was concluded between the Fish and Wildlif Service and the Navajo Tribe, providing for training of Navajos in this wor at Tribal expense, the Navajo Tribe has assumed increasing responsibility fo

the support of this program, providing $50,240 for this purpose in fiscal year 1957.

11. **Farm and Range Conservation.** Since 1954, the Navajo Tribe has participated with the Bureau of Indian Affairs and the Federal Agricultural Conservation Program, in the conservation of Reservation range and farm ands, providing $129,000 of Tribal funds for this work during the period July-December, 1957. Individuals and Reservation communities are heavy contributors in the form of necessary labor, as described in Section 6 of this report, under Soil and Moisture Conservation.

12. **The Tribal Department of Land Use and Surveys.** In 1954 the Tribal Council established a Department of Land Use and Surveys, with broad esponsibilities for the safeguarding of land resources, for conducting neces- ary research in connection with land use, land purchase and exchange, the granting of easements and rights of way, Reservation boundaries and allied ubject fields. The Tribe was fortunate in being able to retain the late Richard Van Valkenburg to head the new Tribal Department. An intense, ighly competent student of Navajo history, pre-history, archaeology, land nd other facets of the Navajo, Mr. Valkenburg was a heavy contributor to he Navajo Claims Case, a trustworthy advisor to the Tribe in decisions in- olving Tribal interests, and a valuable medium for the interpretation of Navajo problems and interests to the Congress and the Public. Mr. Van Valkenburg was the author of many publications, both popular and scientific, cluding **Dine Bikeyah,** an historical geography of the Navajo Country, and **Short History of the Navajo Tribe.** His loss will be felt for many years to come, and may well be a factor which will change the future course of Navajo history.

The Tribal Department of Land Use and Surveys has assumed many me consuming and expensive responsibilities that might otherwise have to e borne by various Branches under the Agency Division of Resources, and was financed in 1957 with $65,350 of Tribal funds.

Many other aspects of Tribal program and activity are reviewed else- here in the present report, some because they were formerly rsponsibilities the Bureau which the Tribe has assumed almost in their entirety (e. g. the evelopment of Tribal Enterprises and Industries, Law and Order); some are der the main body of the report because the programs involved are to ch a great degree cooperative efforts between the Tribe and the Bureau (g. Forestry, Welfare, etc.). Other Tribal activities are discussed in detail in the Appendix under **Navajo History.**

NAVAJO TRIBAL BUDGET

FISCAL YEAR 1957

AS AMENDED

571—Administration	Original Budget	Amendments	Total
General Council	$132,117	0	$132,117
Advisory Committee	63,310	$ 20,000	83,310
Officers and General Offices	104,880	0	104,880
Committees	6,420	0	6,420
Insurance, Taxes, Licenses	26,000	0	26,000
Records Management	40,971	0	40,971
Total 571	373,698	20,000	393,698
572—Law and Order			
Committees	6,750	0	6,750
Enforcement	427,399	0	427,399
Judiciary	63,473	0	63,473
Legal Counsel	89,140	2,150	91,290
Total 572	586,762	2,150	588.912
573—Community Services			
Committees	15,408	0	15,408
Chapters—Dist. Council	174,402	0	174,402
Welfare	432,500	110,000	542,500
Education Scholarships	100,000	15,000	115,000
Fair and Band	24,400	0	24,400
Grazing	78,024	0	78,024
Emergency Stockfeed	0	800,000	800,000
Emergency Relief Fund	0	150,000	150,000
General Relief	0	50,500	50,500
Office of Comm. Serv.	0	7,900	7,900
Total 573	834,014	1,133,400	1,967,414
574—Resources			
Committees	66,608	7,500	74,108
Audit, Finance, Trading	57,537	1,700	59,237
Industrial Develop.	425,890	461,000	886,890
Credit	21,825,	0	21,825
Mining	58,175	0	58,175
Well Maintenance	40,000	0	40,000
Realty	33,440	0	33,440
Forestry	36,700	0	36,700
Maintenance Trib. Prop.	29,190	0	29,190
Extension	20,000	0	20,000
Farm & Range Conserv.	129,000	0	129,000
Land Use & Surveys	65,350	0	65,350
Farm Training Project	0	230,000	230,000
Farm & Range Mgt.	0	18,050	18,050
Total 574	983,715	718,250	1,701,965

575—Capital Expenditures	Original Budget	Amendments	Total
Well Drilling	222,000	169,000	391,000
Land Purchase	254,136	0	254,136
Land Purchase	0	704,291	704,291
Office & Bldg. Plans	0	100,000	100,000
TV—Translator	0	20,000	20,000
Community Houses	0	5,000	5,000
Total 575	476,136	998,291	1,474,427
GRAND TOTAL	3,254,325	2,872,091	6,626,416

The Tribal Budget for fiscal year 1958 was approved by the Council in a total of $12,301,231, a substantial increase over the amount budgeted for the preceding year. However, of the 1958 total, $5,000,000 was included as a scholarship trust fund.

The 1958 Tribal Budget is summarized below, including budget amendments voted by the Tribal Council during the first quarter of the fiscal year. These are indicated by asterisks.

1958 TRIBAL BUDGET

Purpose	Budgeted	Added By Amendment
Administration	$ 414,077	
Legal & Judiciary	169,408	$ 9,295*
Community Services	2,377,211	4,800*
Industrial & Business Operatoins	758,150	81,250*
Minerals Management	97,795	
Farm & Range Management	1,139,110	30,700*
Land Use and Surveys	99,000	
Financial Management	108,980	
Capital Investments	7,137,500	1,745,000*
Total	12,301,231	1,871,045*
rand Total to September 30, 1957		$14,172,276

PROGRAM PLANNING

Essentially, the goal of Indian Bureau policy is the social and economic levation of Indian people to a level commensurate with National standards, thus obviate the special federal services and relationships which presently ttach to Indian citizens and their property, and which are provided or xercised through the Bureau of Indian Affairs.

The accomplishment of this objective involves (1) the acceleration and xpansion of federal programs, especially those related to health, education nd resource development, to the extent that State, County, Tribal and other cal agencies are unable to provide needed services; (2) the promotion of venues and media whereby special functions of the Federal Government n be transferred gradually to state and local agencies as rapidly as they and the Indian Tribes and Reservations can reach a state of preparation permitting such transfer; and (3) gradual assumption of federal responsibilities by Indian Tribes themselves wherever and whenever they can be prepared to assume and discharge such responsibilities through the medium of Triba organizations, tribally sponsored corporations, etc.

Attainment of social and economic parity for Indian groups in conformity with the intent of Congress to ultimately terminate its trustee relationship with Indian Tribes is dependent upon (1) effective leadership, (2 carefully elaborated short and long term planning, and (3) minute understanding of the Indian groups involved in order to adapt techniques of leadership and details of planning to most effectively satisfy the peculiar requirements of each individual Tribe. As Commissioner Emmons and others have repeatedly stated, the fact that American Indians generally comprise a distinct minority group within our national population cannot be extended as a generalization to assume that all segments of that minority group share a common complex of social and economic problems. Historical, cultural geographical and other factors have combined to create distinctions, sometimes subtle, sometimes radical, in the sets of problems attaching to given Indian communities, and the development of effective solutions to those problems presupposes close adaptation of techniques and procedures to the peculiar requirements of each situation. Thus, the objective of providing public school opportunities to meet the educational requirements of Indian Tribes generally, poses a different set of problems in relation to the Navajo the Hopi, the Cherokee or the Seminole. A single master plan is not equally applicable to each of these Indian communities.

The Navajo-Hopi Long Range Rehabilitation Act of 1950 was the first over-all program developed on the basis of study of the specific sets of problems attaching to two distinct Indian Tribes, and involving specific short and long term objectives. The program is currently entering its eighth yea of operation and the objectives and procedures defined and elaborated in the Act of 1950 remain as basic guidelines although they themselves have undergone adaptive changes to meet new situations and circumstances which have entered the picture since the drafting of the Long Range Act.

Planning and procedure with regard to education have kept abreast of changing requirements to effect radical changes in the original long range approach with regard to which the immediate instead of the gradual provision of universal educational opportunities for Navajo children is of primary importance.

The objective of constructing 636 miles of primary and 633 miles of secondary roads on the Navajo Reservation remains essentially intact, but lack of necessary appropriations under the Long Range authorization for highway construction purposes has made it necessary to look to funds avail able under the Federal Highways Act to meet this important objective. Although these, and other changes described with relation to specific program objectives in the main body of the report, have taken place over the course of the past 7 fiscal years, the Navajo-Hopi Long Range Act remains the basic framework within which the Navajo program operates.

However, the Navajo Agency and the Navajo Tribe, as well as the Public Health Service, are continuously active in the projection of planning to meet both the short term and long term requirements of programming for the integration of the Navajo people into the main stream of American life and the termination of special federal services. With only three years remaining before expiration of the 10-year Long Range Rehabilitation Act, additional emphasis will hereafter be laid upon evaluation of past progress, redefinition of the problems and further projection of program planning. Short term projections include the following:

1. **Education:** A projection of Navajo population growth through 1961 indicates an increase of about 6,000 children aged 6-12 inclusive, over the 16,056 counted in the 1955 school census. Planning for the provision of school opportunities on the Reservation to meet this increased enrollment, n conformity with educational policy directed at the education of children n this age-group at Reservation schools located near their families, will provide for school expansion and construction to provide a total capacity for 22,105. Planning, to meet requirements through fiscal year 1961, will require expansion of 45 existing Reservation Boarding Schools, enlargement or construction of 6 Day Schools, and conversion of 11 Trailer Schools to Permanent School basis. Future planning in this connection includes 2,810 elementary seats in Reservation Public Schools, involving new school construction at a number of proposed locations.

In addition, and to meet the requirements of Navajo School Children n age-groups over 12 years, a new dormitory will be constructed at Flagstaff or 300 children, and the Holbrook Dormitory will be enlarged. To meet the eeds of the expanding high school age group, 800 seats are planned at high chools located on the Reservation, and increased numbers of high school eats will be made available in the peripheral towns to thus meet the total eed to 1961. The total cost of the Reservation and peripheral town construction and expansion program is placed at $19,325,000, projected over he period fiscal years 1957-61, inclusive.

2. **Resources Development.** The Krug Report of 1948, upon which the ong Range Program and Act of 1950 were predicated, recognized the deelopment potential of Reservation timber resources, and recommended tudies to determine the feasibility of expanding the Reservation lumber dustry. A master forest management plan was completed in 1952 by the ureau of Indian Affairs, and a Forest Development Study for the Navajo

Timberlands was subsequently completed, in 1956, by Hammon, Jensen, Wallen and Rambo, containing specific recommendations for future developments of the timber resource.

During fiscal year 1958, the Navajo Tribal Council will consider the feasibility of investing $11,236,140 in the construction of a new sawmill, timber products plant, and auxiliary facilities, as recommended by the timber consultants, to increase the cut of Reservation timber from 17,186,180 board feet (in 1957) to 57,595,000 board feet (during an ensuing 10-13 year period), and to increase employment of Navajos from a total of 300, including milling (175) and logging (125) operations in connection with the present lumber industry, to 685 (including those employed by the present sawmill) plus 385 to be employed in milling, logging and other aspects of the **new** industrial operation. The most conservative profit projection would indicate an annual income of approximately $1,382,791 to the Navajo Tribe from the new plant.

The Soil and Moisture Conservation program has already projected its operation over a 20-year period, at the end of which it is anticipated that the Reservation Range will be under sound management, and conservation structures required for such management will be complete. Short term planning within the long term period involves the preparation of the Navajo Tribe to assume ever-increased responsibility, financial and otherwise, for the management of Reservation grazing resources, and the steady transfer of other Bureau functions to State and County Agencies (e. g. the transfer of Extension Services). The Navajo Tribe has authorized the appropriation of $3,000,000 for a 5-year water development program, and by fiscal year 1960 the Tribe will have assumed the total financial burden of water wel maintenance.

Negotiations and plans are presently underway with the Navajo Tribe leading to assumption of responsibility by the Tribe for operation and main tenance charges on Reservation irrigation projects.

3. **Law Enforcement.** The Navajo Tribe has already assumed nearly al financial responsibility for operation of the Reservation Enforcement and Judiciary systems and it is anticipated that Tribal funds may be authorized for the construction of needed court and jail facilities in the Navajo Country

4. **Welfare.** Negotiations continue with the State Departments o Public Welfare in Arizona, New Mexico and Utah in an effort to secure fu services for all eligible Navajos, especially with reference to categorical aid under the Social Security Program.

To meet the emergent needs for General Assitance and Child Welfare services on the Reservation, planning for the immediate future contemplate the establishment of an office at Kayenta, and Holbrook and necessary staf expansion to serve the Crownpoint, Fort Defiance, Tuba City and Shiproc Subagencies.

A total of $671,928 has been requested in the budget estimate for 1959 to more adequately meet welfare requirements which are not available from other sources. The custodial care of neglected, abandoned or otherwise needy children, and provision for convalescent tuberculars remain complex problems for the solution of which negotiations with State agencies and other planning continue.

APPENDIX

The Appendix contains general descriptive information relative to th Navajo people and their Reservation, a sketch of the development of th United States Indian Service and national policy relating to Indians, an specific statistical data in connection with census, health, education, welfare resources and economy.

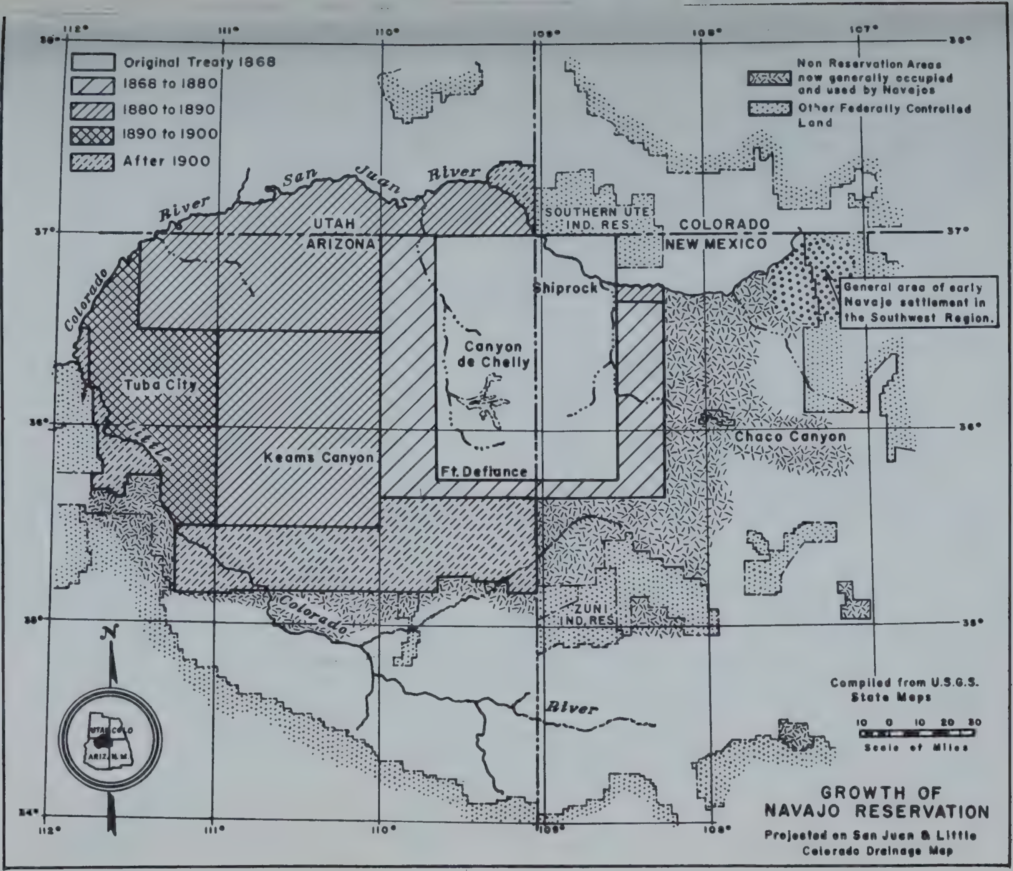
Much of the statistical material is based upon reports, tabulations an estimates contained in Navajo Agency files and developed over the cours of several decades by technicians who have worked with the Navajo. Som of the data have been provided by State Departments of Public Welfare State Employment Services, the Railroad Retirement Board, the U. S. Publi Health Service, and other agencies outside the Bureau of Indian Affairs.

Close study of some tables of statistics will reveal discrepancies, some o which are minor while others are relatively great. The latter is especially tru of the information provided with regard to morbidity, mortality, and healt matters generally, and owes to the former inadequacy of the Reservatio reporting system, and the lack of a statistics section in the former Burea Branch of Health. The data given for the years prior to 1954 are probabl inaccurate and are based upon incomplete field reports; however, they represent the only available information, and have been reproduced here on th premise that they are better than nothing at all.

Again, the Reservation area is almost totally unsurveyed, a fact which gives rise to discrepancies among tables showing estimated acreages o Land Management Districts and the like. And census information is partiall estimated, even with respect to census years.

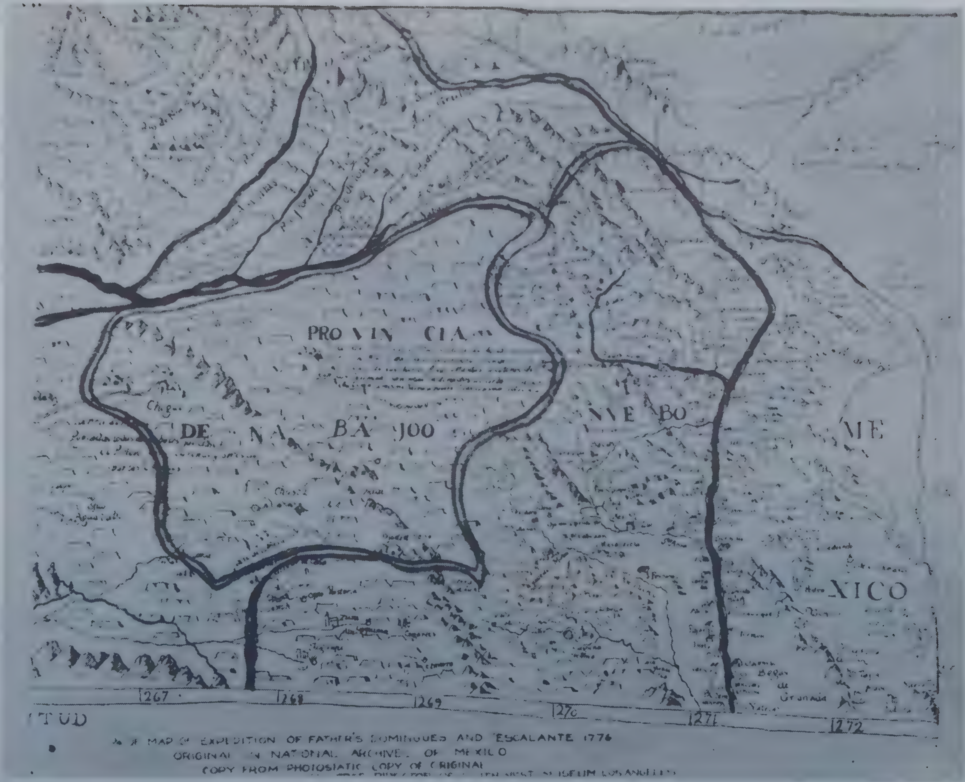
Inaccurate though some of the statistical data may be, we believe tha it is the best available, and have provided it herein in the hope that it wil help readers interested in the Navajo to gain a better understanding of th people, and their social and economic problems.

Review of the Appendix in this, the 1957 edition, will reveal the fac that a considerable amount of new information has been added, and many o the tables from the 1955 edition have been corrected or brought up-to-date


Original Treaty 1868
1868 to 1880
1880 to 1890
1890 to 1900
After 1900
Non Reservation Areas now generally occupied and used by Navajos
Other Federally Controlled Land
General area of early Navajo settlement in the Southwest Region.
San Juan River
Colorado River
Little Colorado River
UTAH
ARIZONA
COLORADO
NEW MEXICO
SOUTHERN UTE IND. RES.
ZUNI IND. RES.
Shiprock
Canyon de Chelly
Ft. Defiance
Chaco Canyon
Tuba City
Keams Canyon
112°
111°
110°
109°
108°
107°
38°
37°
36°
35°
34°
N
UTAH
COLO
ARIZ.
N.M.
Compiled from U.S.G.S. State Maps
10 0 10 20 30
Scale of Miles

GROWTH OF NAVAJO RESERVATION

Projected on San Juan & Little Colorado Drainage Map



PROVINCIA
DE NABAJOO
NVEBO
ME XICO
TUD
1267
1268
1269
1270
1271
1272
MAP OF EXPEDITION OF FATHER'S DOMINGUES AND ESCALANTE 1776
ORIGINAL IN NATIONAL ARCHIVE OF MEXICO
COPY FROM PHOTOSTATIC COPY OF ORIGINAL

An old map of New Mexico shows the location of the Navajo Tribe in 1776.

THE NAVAJO COUNTRY

The following description of the geography, soil, climate and vegetation of the Navajo country is adapted from an excellent report compiled in 1941 by Mr. Paul Phillips of the Navajo Agency, and entitled "General Statement of Conditions in the Navajo Area."

PHYSIOGRAPHY: The Navajo Area includes all of the Navajo and Hopi Indian Reservations (totaling 15,087,163 acres or 23,574 square miles) within the present legally described boundaries. The area straddles almost the entire length of the divide separating the watersheds of two of the Colorado River's most important tributaries—the San Juan and the Little Colorado—and extends northward from this divide across the flood plain of the San Juan between Fruitland, New Mexico, and Montezuma Creek below Aneth, Utah, and southward across the flood plain of the Little Colorado at Leupp, Arizona. The divide between these two systems describes a tortuous course running diagonally across the area in a northwesterly direction from the southeast corner, beginning at a point about 40 miles from the Continental Divide, and splitting north of Tuba City to cut off a series of smaller watersheds draining directly into the Colorado River. Approximately 6,561,000 acres (44%) drain into the San Juan; 7,375,500 acres (49%) drain into the Little Colorado, and 1,150,600 acres (7%) drain directly into the Colorado River. The area includes about two fifths each of the San Juan and Little Colorado River systems which, together with the Virgin River, drain about 65,000 square miles and, while contributing only 10% of the water of the Colorado, produce 75% of the silt. The Navajo constitutes 36% of this critical area and, therefore, occupies the most important western watershed position.

The surface of the Navajo area includes four principal features: 1. The flat alluvial valleys at elevations from 4,500 to 6,000 feet; 2. The broad, rolling upland plains between 5,500 and 7,000 feet; 3. The mesas located at elevations of 6,000 to 8,000 feet; and 4. The mountains ranging from 7,500 to over 10,000 feet in altitude. Each of these four major types is cut by canyons of a few hundred feet to more than 2,000 feet in depth and is broken by prominences rising as high as 1,500 to 2,000 feet. Most of the Navajo-Hopi area lies between elevations of 5,000 and 7,000 feet.

There are three outstanding highland provinces, namely the combined Chuska-Carrizo Mountain range, the Black Mesa, and Navajo Mountain.

The combined Chuska-Carrizo chain forms a long range extending across the eastern portion of the reservation in a north by north-westerly direction. The tops of these mountains are alternately broken, with flat plateaus situated at altitudes of 8,000 to 8,800 feet, from which ridges and buttes rise still higher to elevations up to 9,500 feet. Along the eastern slope of the Chuskas between 7,300 and 7,800 feet lies a narrow level bench below which is a rough and severely dissected slope extending downward to the plains below. The bench becomes more broken at the southern extremity and continues around to the north and west of Mexican Springs, somewhat narrowed, to break away southward in the form of rough wooded hills. To the east these hills meet a high plateau known as Mesa de Los Lobos. The slope is made up of a series o exposed strata of sandstone, conglomerate, shale and igneous rock from which springs fed principally by snow water deposited in mountain lakes, break forth.

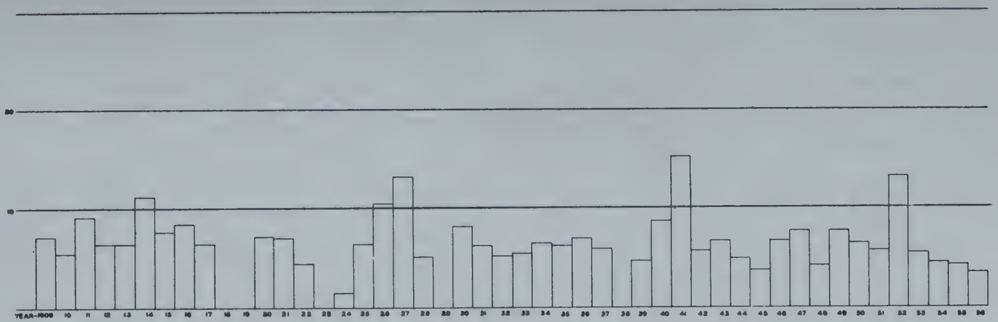
Black Mesa is an island prominence about 250 miles in circumference located almost exactly in the center of the Navajo-Hopi area. The northern and easter escarpments are precipitous cliffs rising 2,000 feet above the plain, from which th mesa top slopes gradually away to the southwest. Streams draining the mesa reac almost to the very edge of the escarpments, heading in an extremely rough and broken country with steep slopes and narrow canyons. The main drainages flow between southwesterly aligned ridges and mesas, dissected by numerous canyons and small side valleys, which break up further to the south and southwest, the ridge ending in finger-like projections. Three of the latter are the first, second and third mesas of the Hopi country.

Navajo Mountain, located in the extreme northwestern portion of the reservation, is the third most important prominence. It is a lone peak rising 5,000 feet above the surrounding plains to an elevation of 10,416 feet, the highest point of the Navajo area. In this portion of the reservation, broad, rolling, broken plateaus extend from the Echo Cliffs in a curving northeasterly direction around Black Mesa and acros Chinle Valley. Paralleling this belt on the north is another wide strip of country, extremely rugged and barren, with high broken mesas and deep canyons; probably the most inaccessable part of the entire reservation, it extends from Echo Cliffs to Chinle Wash. Because of the excessive drainage due to numerous falls and deep canyons it is practically impossible to obtain water in this area by drilling wells. There is a number of springs along the cliffs and in the heads of the canyons.

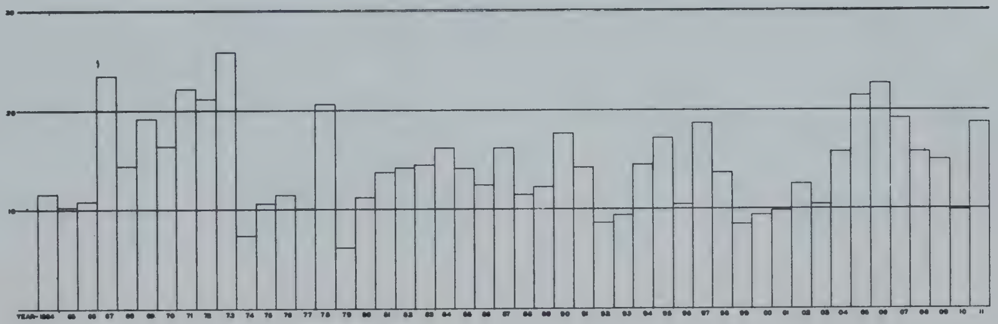
CLIMATE: It is well known that in mountainous country climate is determined largely by elevation and topography, factors which partially subdue the influence of latitude. Increased humidity at high altitudes may bring about the development of transitional-zone plant associations, while air drainage, sub-irrigation, and northern exposure may produce similar associations in the heads of canyons 3,000 or 4,000 feet lower down.

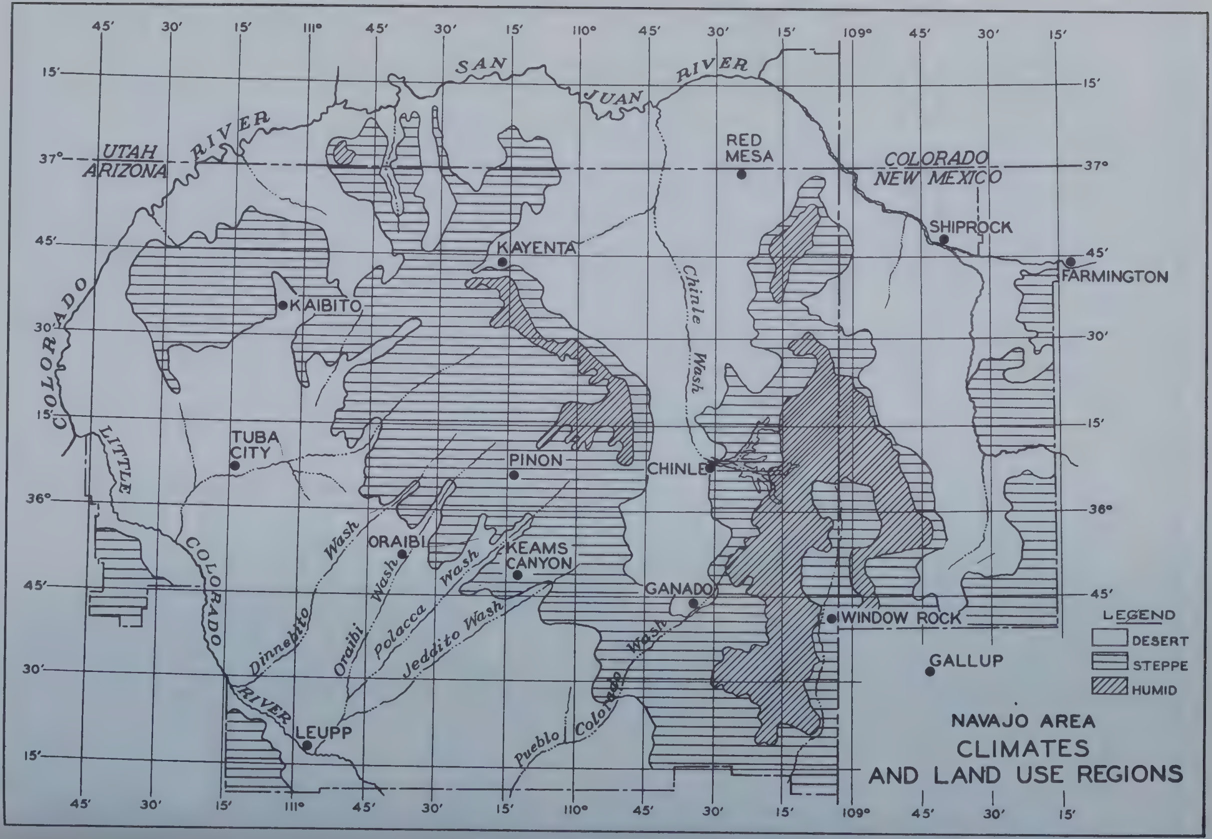
There are three distinct climates within the Navajo area: 1. The cold humid climate of high altitudes, including the upper elevations of the Chuska and Carrizo Mountains, the Fort Defiance Plateau, a strip along the northern and eastern escarpments and the highest ridges of Black Mesa, the top of Navajo Mountain, and several small areas located in the heads of some of the canyons in the Tsegi country and northwestern part of the reservation; 2. The intermediate steppe climate of the mesas and high plains, including belts along mountains, foothills, the high portions of the Chaco and Chinle plains, Black Creek Valley, a large part of Black and Balakai Mesas and adjacent mesas of similar elevations, and the areas of the vicinity of Inscription House, the plateaus above the Tsegi canyons, Piute Mesa, Mormon Ridges, and Preston Mesa; and (3) the comparatively warm desert, including the lower portions of the Chaco and Chinle valleys and all the southern, western, and northwestern parts of the reservation. Of the entire area of 23,574 square miles, 1,760 square miles (8%) is classed as humid; 8,748 square miles (37%) as steppe, and 13,066 square miles (55%) as desert.

COMPARATIVE ANNUAL PRECIPITATION
TUBA CITY STATION. YEARS 1909-1956



COMPARATIVE ANNUAL PRECIPITATION
FORT WINGATE STATION. YEARS 1864-1911




NAVAJO AREA
CLIMATES
AND LAND USE REGIONS

LEGEND
DESERT
STEPPE
HUMID
SAN JUAN RIVER
COLORADO RIVER
LITTLE COLORADO RIVER
UTAH
ARIZONA
COLORADO
NEW MEXICO
RED MESA
SHIPROCK
FARMINGTON
KAYENTA
KAIBITO
TUBA CITY
PINON
CHINLE
Chinle Wash
ORAIBI
KEAMS CANYON
GANADO
WINDOW ROCK
GALLUP
LEUPP
Dinnebito Wash
Oraibi Wash
Polacca Wash
Jeddito Wash
Pueblo Colorado Wash
Wash
37°
36°
15′
30′
45′
111°
110°
109°

The three climates, though markedly different and distinct in many respects, are not separated by fixed or sharply drawn lines except where divided by wide differences in elevation. Desert merges into steppe and steppe into humid, with certain characteristics, such as wide daily, monthly, and yearly fluctuations in temperature, high evaporation rates, periodic high winds, wet and dry seasons, and intense local storms, common to all three.

The Humid Zone: The average annual temperature of the humid zone ranges from 43 to 50 degrees Fahrenheit. Winters are continuously cold during the months of December, January, and February, with average minimum temperatures varying from 4 to 15 degrees. Minimum temperatures may reach 25 degrees below zero. The average maximum temperatures during June, July and August, the hottest months, are between 70 and 80 degrees, with the highest temperature on record at 99 degrees.

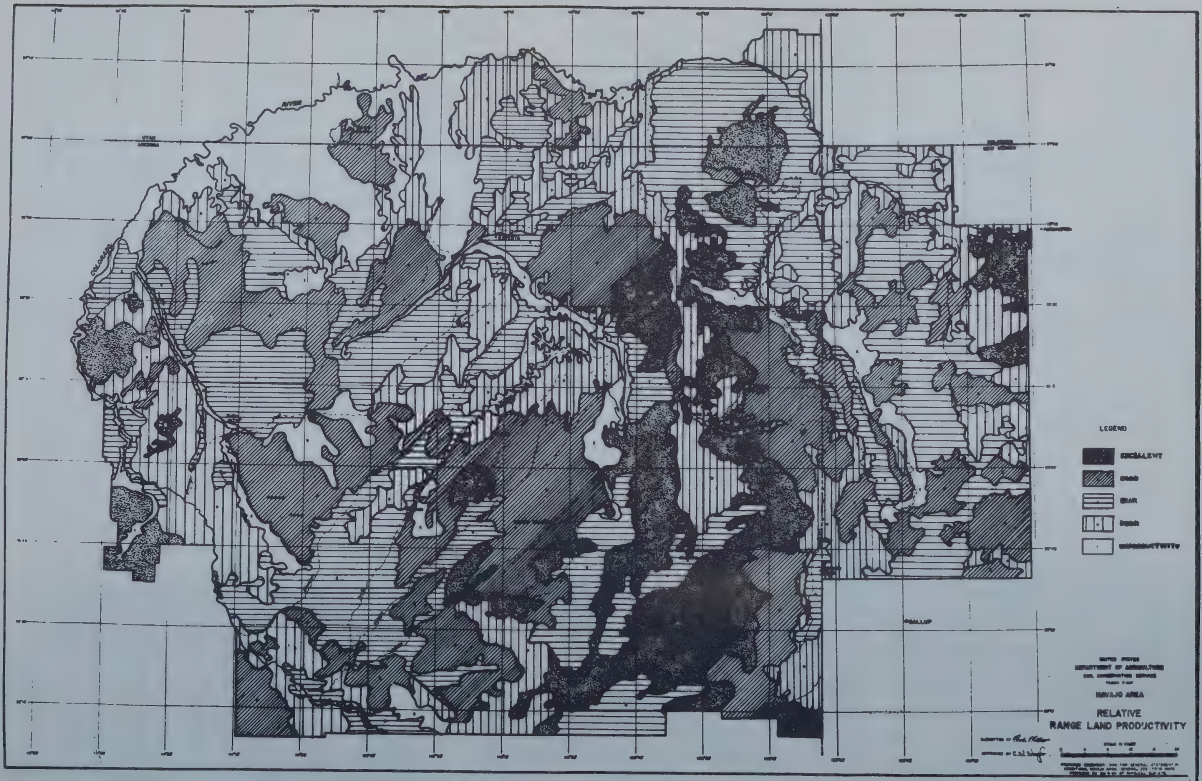
Total annual rainfall averages between 16 and 27 inches, the high averages being reached only at the highest elevations. There are two distinct periods of precipitation, the winter period (December, January, February and March), when 42 per cent of the total annual precipitation generally falls, and the summer period (July, August, and September), when 32 per cent generally falls. Between these two periods there are the early summer dry period of April, May and June and the fall dry period of October and November.

Snow accounts for 41 percent of the total precipitation, with December, January, February and March as the months of heaviest snowfall. The total annual fall usually exceeds 90 inches, with deposits often reaching 4 or 5 feet in depth on the level and 30 feet when drifted. Run-off from melting snows takes place principally during April and May, at which time the seasonal mountain streams flow at maximum sustained rates.

The Steppe Zone: About one fifth of the Navajo area falls within the steppe zone. This zone is intermediate between the humid above and the desert below, with moderate summers and frequently severe winters. The average annual temperature ranges from 45 to 50 degrees with an average minimum monthly temperature during the winter of 10 to 25 degrees, and an average maximum during the summer of 80 to 88 degrees .The coldest temperatures, as low as 25 to 30 degrees below zero, occur during December, January, and February; the highest temperatures, which may exceed one hundred degrees, occur during June, July and August.

Annual rainfall normally averages 12 to 16 inches. There is one outstanding season of precipitation which occurs in July, August and September when 43 per cent of the total annual precipitation falls. There are two more or less definite periods of drought, in May and June and in October and November.

Within the steppe zone one-fourth of the precipitation falls as snow, the fall usually averaging about 30 inches per season. Deposition often reaches 2 or 3 feet, and high winds may drift snow to depths of 8 or 10 feet. December, January, February and March are the months of heaviest snowfall. Usually by late March most of the snow has melted and resulting run-off has subsided; streams originating within this zone are dry washes most of the year and flow steadily only two or three weeks in early spring.


RIVER
UTAH
ARIZONA
COLORADO
COLORADO
NEW MEXICO
GALLUP
LEGEND
EXCELLENT
GOOD
FAIR
POOR
UNPRODUCTIVITY
UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
NAVAJO AREA
RELATIVE
RANGE LAND PRODUCTIVITY

MAP 6

The Desert Zone: About three-fourths of the Navajo area is classed as desert. The average annual temperature is 50 to 60 degrees with a relatively long warm season extending through April, May, June, July, August, September and even into October and November. In mid-summer maximum temperatures may reach 110 degrees or more, and average maximum monthly temperatures in some localities may reach 100 degrees. December, January, and February are the coldest months with minimum temperatures averaging 11 to 30 degrees above zero, but temperatures as low as 20 and 30 degrees below zero have been recorded.

Total annual rainfall normally averages between 7 and 11 inches, but wide variations are the rule with figures registered as low as 1.5 inches and as high as 16 inches. The wettest season occurs during July, August, and September, when 41 per cent of the total annual precipitation falls. Snowfall accounts for a comparatively small portion of the moisture supply, and low reaches of this zone often do not have more than a few flurries. The snow that does fall usually comes during December, January, and February, the period from March to November being almost completely free from snow.

The average annual total of days which have measurable precipitation is less than 50, most of which occur during July and August.

Records for the desert zone show an average growing season of 173 days extending between approximate dates of April 25 and October 15; the growing season within the steppe belt averages approximately 147 days, extending from about May 14 to October 9; and the growing season within the area of humid climate averages 95 days, extending from about June 12 to September 15.

The humid zone is often snow-bound from December to April each year, and the Indian inhabitants migrate to lower elevations.

Within the desert and steppe climates, most of the rainfall occurs as summer downpours of high intensity and short duration. Like the southwest generally, the Navajo area is a sunny country, the percentage of clear days averaging about 80 per cent of the total. High winds and sandstorms occur during the late spring and early summer months.

The high rate of evaporation is one of the most important causes for the loss of water in the Navajo country, particularly from the surfaces of reservoirs and lakes exposed to wind movement and bright sunshine. The removal of 5 to 7 feet annually from even a comparatively small reservoir means the loss of several acre feet of precious water. High winds of 38 to 46 miles per hour have been recorded. Dust devils or large whirlwinds caused by convection air currents resulting from the heating and movement upward of masses of air near the ground surface, are common in Navajoland during the summer months.

SOILS: Soils of the Navajo-Hopi area are used almost universally for the production of livestock forage. They have been evaluated by determination of certain important ecological characteristics, such as soil permeability and water-holding capacity, zone of water retention, slope, erosion, alkali, drainage, and type of vegetation, and classified into five divisions as **excellent, good, fair, poor** and **unproductive.**

Excellent Soils: Soils of this type absorb most of the average precipitation an do not produce any considerable run-off, except during maximum storms. Highl palatable grasses, principally blue grama and galleta usually are produced in pur stands or with scattered associated shrubs. Generally, erosion is not serious and wi not become so unless the land is subjected to extended periods of overgrazing. Ex cellent soils cover an estimated 1,663,800 acres, or only 11 per cent of the Navaj area. They are most extensive in the south central part, but smaller, isolated area are found in the extreme northeast on the plains north of Carrizo Mountain, on Secon Mesa, in the Padre Canyon country, on Grey Mountain, and in the area west o Cedar Ridge.

Good Soils: Soils of this type are slightly more susceptible to erosion, and th rate of moisture penetration is equivalent to that of excellent soil or is sometime more rapid because of the extremely sandy surface layers. Good soils are foun generally over the reservation, in an area totaling about 3,500,000 acres, or 22 pe cent of the Navajo-Hopi area.

Fair Soils: Soils of this type are the most extensive in the Navajo-Hopi area, an total almost 4,400,000 acres, or 29 per cent.

Poor Soils: Soils of this type occupy almost 3,400,000 acres, or 23 per cent, o the entire Navajo-Hopi reservation area.

Unproductive Soils: Soils of this type occupy about 2,205,000 acres, or 15 pe cent of the reservation area, including principally the rough broken strip of countr bordering the San Juan and Colorado Rivers in the northern and northwestern part and extending southward west of Echo Cliff and along the Little Colorado Valley the northern and eastern escarpments of Black Mesa, some of the eastern escarpments of the Lukachukai Mountains, the painted desert formations, and the badlands. Land of this class has essentially no grazing value. A large percentage of the precipation escapes as run-off and carries away large quantities of silt. Vegetative cove is sparse or absent.

VEGETATION: Ten general types of vegetation occur over the Navajo-Hopi reservation area: grassland, meadow, weeds, sagebrush, browse (shrub), timber, inaccessible and barren, woodland, and aspen. These types, which actually merge in various combinations, are determined by climate, relief, soil, and other environmental factors, and the vigor and productivity of the component plants are functions of environment.

Grassland occurs typically on residual and outwash soils of rolling plains and mesas at the middle elevations. This type includes bunchgrass areas, grama areas, and other open grassland, not meadow in character, where grasses predominate. Weeds or browse, or both frequently occur in mixtures with the grasses.

On the reservation, meadows are found only within the most humid climate on the higher reaches of the Chuska Mountains, occurring as open parks associated with yellow pine, spruce-fir, and aspen. Growth form, densities, and forage production are similar to grasslands.

Weeds or weedlands include all untimbered areas where perennial weeds predominate over other classes of vegetation. A very common weed in the reservation area, which often makes its appearance following overgrazing, is the Russian thistle.

Sagebrush is one of the more common shrubs in the Navajo area, covering some 780,000 acres or 5.2 per cent of the area. It will supply forage for a total of about 55,000 sheep units yearlong.

Chamise and greasewood occur on undeveloped alluvial soils along most of the large drainages and their tributaries within the desert and steppe climates.

Coniferous timber is adapted to the more humid portions of the area at elevations generally above 7,500 feet, except where local topography, exposure, evaporation, and sub-irrigation result in favorable micro-climates. Heavy coniferous stands often do not include an understory of forage plants and, therefore, are of little use for grazing although such stands furnish excellent soil and watershed protection. Coniferous timber occupies about 6 per cent of the Navajo area (540,000 acres) and supplies forage for about 22,000 sheep units yearlong. Commercial timber constitutes a highly valuable resource.

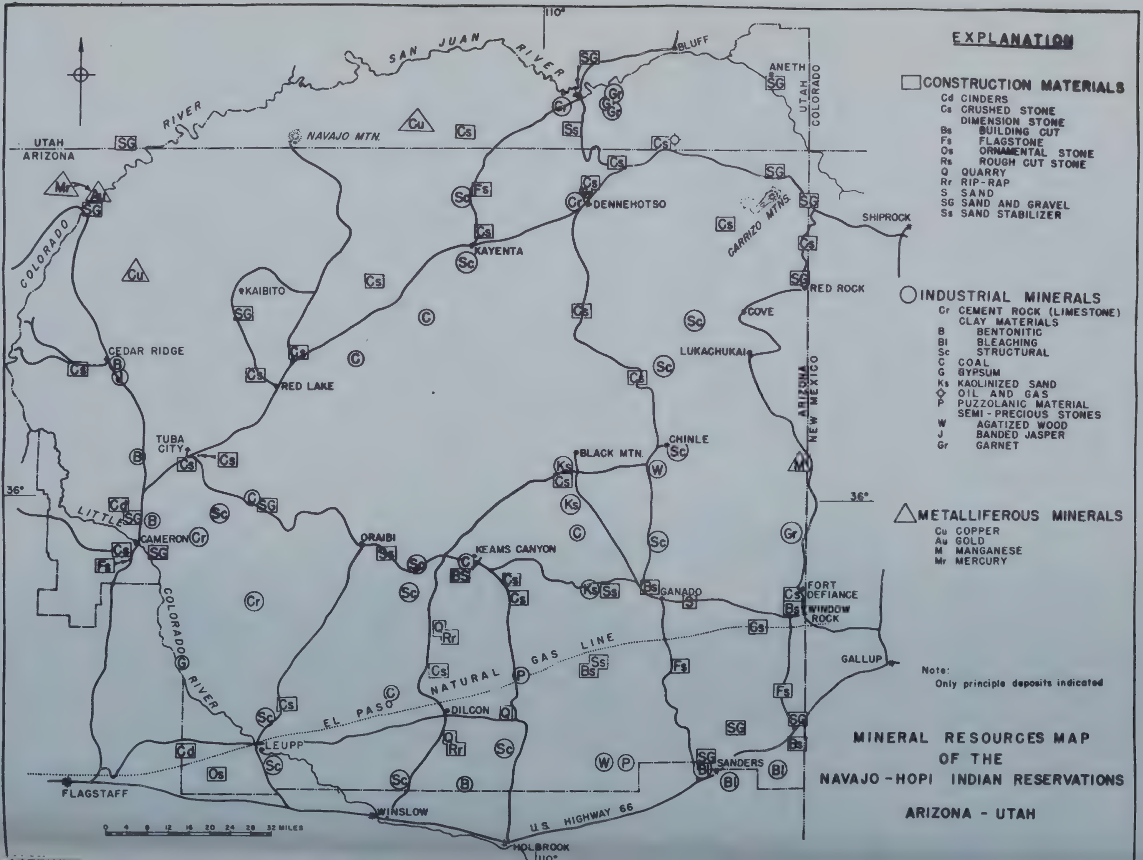
Over 1,000,000 acres (7%) of the Navajo area is wasteland, principally because of its inaccessibility. In addition, about 665,000 acres are designated as barren, and are typified by the painted desert area, bare rock regions and other badlands.

AGRICULTURE: Farming opportunities in the Navajo area depend principally upon soil slope and on water availability. The most extensive dry farm agricultural area lies within the humid belt, where agricultural soils typical of this zone are highly productive. Crops which can be profitably produced under careful management include oats and other small grains, alfalfa and sweet clover, corn, potatoes, turnips, carrots, cabbage and other cool season vegetables, and grasses for pasture and hay.

The next most favorable dry farm agricultural area falls within the steppe climatic zone, particularly the part immediately below the humid one where rainfall averages between 12 and 16 inches. The soils in this area are of medium productivity, but because of greater acreage the total yield from dry farm and flood irrigated crops grown probably exceeds all other portions of the reservation combined. Adaptable crops include winter and spring small grains, corn, melons, squashes, beans, potatoes, turnips, and other vegetables. There is more opportunity for diversification within this one than in the other two except on irrigated land.

Principally because of lack of sufficient moisture, the remainder of the reservation is generally unfavorable for the growth of farm agricultural crops.

There are about 44,500 acres of agricultural land now under cultivation on the Navajo reservation, and present estimates indicate that there are perhaps 175,000 acres possible with expansion of agricultural land.



MINERAL RESOURCES MAP
OF THE
NAVAJO-HOPI INDIAN RESERVATIONS

ARIZONA - UTAH

EXPLANATION

□ CONSTRUCTION MATERIALS
- Cd CINDERS
- Cs CRUSHED STONE
- DIMENSION STONE
  - Bs BUILDING CUT
  - Fs FLAGSTONE
  - Os ORNAMENTAL STONE
  - Rs ROUGH CUT STONE
- Q QUARRY
- Rr RIP-RAP
- S SAND
- SG SAND AND GRAVEL
- Ss SAND STABILIZER

○ INDUSTRIAL MINERALS
- Cr CEMENT ROCK (LIMESTONE)
- CLAY MATERIALS
  - B BENTONITIC
  - Bl BLEACHING
  - Sc STRUCTURAL
- C COAL
- G GYPSUM
- Ks KAOLINIZED SAND
- ◇ OIL AND GAS
- P PUZZOLANIC MATERIAL
- SEMI-PRECIOUS STONES
  - W AGATIZED WOOD
  - J BANDED JASPER
  - Gr GARNET

△ METALLIFEROUS MINERALS
- Cu COPPER
- Au GOLD
- M MANGANESE
- Mr MERCURY

Note:
Only principle deposits indicated

110°
SAN JUAN RIVER
RIVER
UTAH
ARIZONA
COLORADO
UTAH
COLORADO
ARIZONA
NEW MEXICO
36°
36°
110°
BLUFF
ANETH
NAVAJO MTN.
DENNEHOTSO
SHIPROCK
CARRIZO MTNS.
KAYENTA
RED ROCK
KAIBITO
COVE
LUKACHUKAI
CEDAR RIDGE
RED LAKE
TUBA CITY
BLACK MTN.
CHINLE
LITTLE
CAMERON
ORAIBI
KEAMS CANYON
GANADO
FORT DEFIANCE
WINDOW ROCK
COLORADO RIVER
EL PASO NATURAL GAS LINE
GALLUP
DILCON
LEUPP
SANDERS
FLAGSTAFF
WINSLOW
U.S. HIGHWAY 66
HOLBROOK
0 4 8 12 16 20 24 28 32 MILES

MINERALS: The metallic minerals include gold, silver, copper, and uranium-vanadium.

Copper is known to exist at several locations on the Navajo reservation, and small amounts occur in the Carrizo Mountains.

Carmotite, a uranium-vanadium mineral, occurs throughout southwestern Colorado, southeastern Utah, and at certain localities in northeastern Arizona. On the reservation it occurs in various locations, principally in the Monument Valley and in the Carrizo Mountains.

Minerals known to exist on the reservation include bentonite, asphalt rock, building stone, clays, gypsum, lime and alum, as well as peridot, garnet and agatized wood.

The distribution of coal in the Navajo country is practically co-existensive with that of the strata of Upper Cretaceous age. In general, it may be said that two fields are distinguishable, the Black Mesa coal field of Arizona, and the Gallup-Durango field of New Mexico and Colorado.

Oil and gas were developed in the northern part of the Navajo area as early as 1907, at which time a well was drilled in the Monument Valley area across the river from Mexican Hat, Utah. Subsequently, a number of wells have been developed.

One of the most important oil fields as far as Navajo economy is concerned s the Rattle Snake oil field in the Shiprock area. On October 15, 1923, an exploratory lease amounting to 4,080 acres was offered for sale at Santa Fe, New Mexico. After having been passed without bid in the forenoon, the lease was offered again n the afternoon and purchased for $1,000. The Santa Fe Company was organized for the development of the property, and in the fall of 1924 the Continental Oil Company acquired an interest in the property and has since been in charge of its operation. The oil field is still in operation and has been one of the principal sources of Navajo Tribal income for many years.

THE NAVAJO PEOPLE

In an effort to provide a small amount of general information relative to tradiional Navajo life and culture, we include herewith a few brief comments in regard o housing, social and political organization, dress, religion, etc. The generalizations re too brief and too vague to have any signification aside from providing a minimal quantity of background information to the reader who has had no previous expeience with the Navajo Tribe and, we hope, providing a stimulus to seek more deailed information through some of the published material listed in the bibliography.

Carding and spinning of wool is learned at an early age in traditional homes.

The baby board gives baby warmth and comfort, as well as protection from the fire and other household hazards.

HOUSING: The traditional Navajo abode is called a hogan. The hogan is most commonly a circular (hemispherical or conical) structure, with a doorway facing east and a smoke hole in the center of the roof, but lacking windows. The wall is usually of logs, mud or rocks, depending on the availability of one or the other building material, and the hemispherical roof is formed of cribbed logs covered with dirt. The fire is placed on the hard packed dirt floor beneath the smoke hole, and a flap or hinged door covers the doorway. The occupants sleep on sheepskins, lying with their feet to the fire and their heads to the wall. Nowadays many hogans have windows, stoves, chimneys, beds, etc., and, in fact an ever increasing number of Navajos live in houses made of logs, stone, lumber, building blocks, etc.

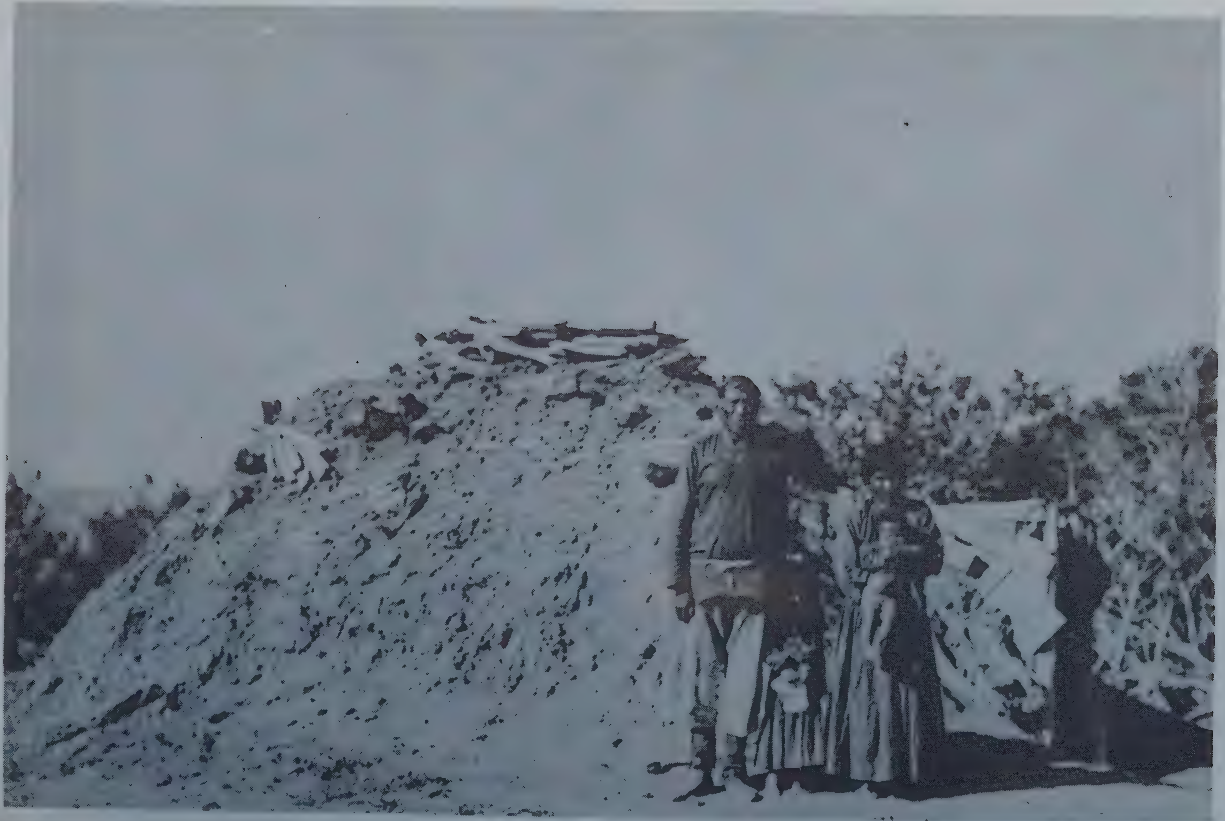
A small structure, conical in shape, made of upright poles and covered with earth, is used as a sudatory or sweat bath, largely by males. It is heated by placing hot stones within, and provides bath facilities in this area of scarce water.

SOCIAL ORGANIZATION: The term "family" is considerably broader in its application to Navajo society than the biological unit including merely the father, mother and offspring, although the biological family is the basic unit of social organization. Traditionally, when a Navajo man marries he goes to make his home with his wife's relatives, and his biological family becomes one of several such units which live in a group of adjacent hogans, and which are referred to as an extended family. The extended family may include husbands and offspring of the wife's sisters, the parents of one's wife, grandparents, aunts, uncles or other relatives of either spouse, and there may be as many as 20-25 persons included within the group. The members help one another and collaborate in providing a livelihood, and cooperate in connection with birth, death, marriage, sickness, minor ceremonials, etc. Direction is usually given to the cooperative activities of the group by the male member who has the greatest prestige or highest status—the one to whom the group normally looks for leadership.

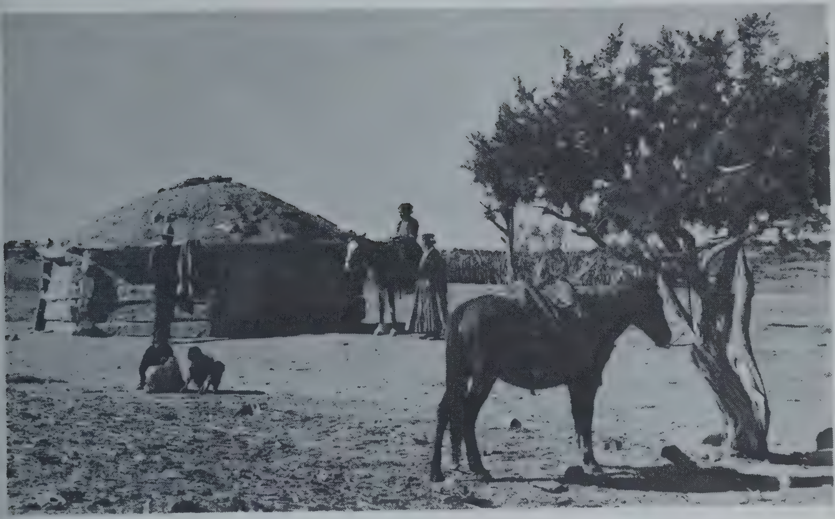
Within the biological family the woman is in full charge of caring for the offspring, cooking, butchering, caring for the food, and is responsible for discharging all other domestic duties connected with the home. The man hauls wood and water, builds the hogan and corral, provides food, does the heavier work of farming, etc., although the women and children commonly assist in the fields, especially at planting and harvesting times, and help with shearing, lambing, etc. Herding of the sheep usually falls to the children.

The children play a very active role in the economic activities of the family, and are given minor tasks to perform at a very early age. As they grow up they are trained in the care of livestock, in farming and in other aspects of gaining a livelihood, as well as in ethics and tradition, and as they grow they begin to acquire property. The process of transferring livestock and farm land to the children continues until, by the time the parents are advanced in years most such property is in the hands of their offspring, especially their daughters and the latter's husbands. Thus a woman's property normally descends, not to her husband, but to her children. The husband is the guardian of such property, but not the possessor of it.

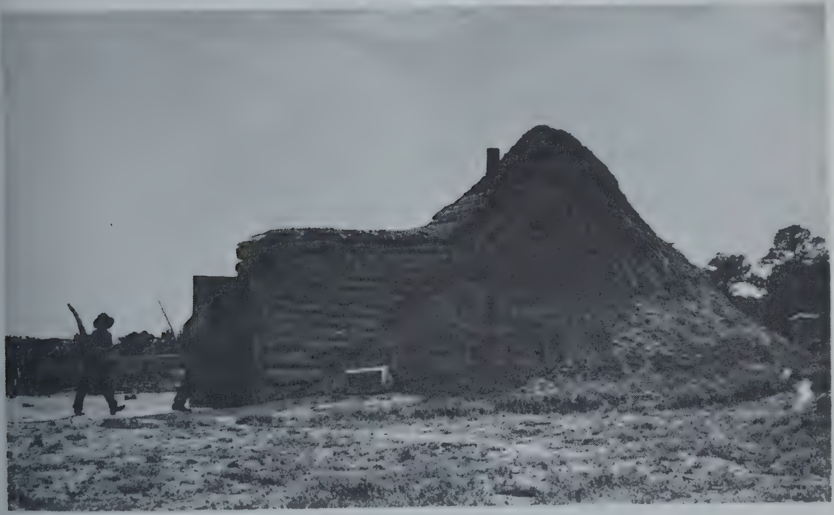
Sheep or farmland are generally the property of individual members of the family, and may be given away, sold or transferred by the owner under certain conditions, but the proceeds from such property are usually used by the entire group.



A Navajo family photographed about 1900 near Ganado, Arizona showing costume used at that period. (From the files of the Museum of the



A modern Navajo hogan built of squared timbers.



An old style hogan with vestibule.

The extended family group, made up of two or more biological families, is very important aspect of Navajo social organization. It is a cooperating unit, close bound together by ties of marriage and close relationship, possessing responsib leadership, and identified with specific areas of land use for grazing or other ag cultural purposes.

Nowadays the husband often leaves his family for seasonal work on the ra road or in the mines, or a portion of the family group, including men, women a children, may spend several months of the year in the cotton fields and truck garde of southern Arizona, or the sugarbeet fields of Utah and Idaho, while other membe of the group care for the livestock and the farm at home on the Reservation.

The extended family group, in its turn, is an aspect of a larger, although mo loosely associated, sociological unit, commonly referred to as a community. The are no communities in the sense of being villages in the Navajo country except such have grown up around Government schools, hospitals and administrative ce ters or around missions. Towns or villages are not aspects of Navajo culture itse However, under the leadership of one or more of the ablest family heads, famili and family groups cooperate as members of a community group, tied by bonds marriage, relationship, adjacent residence, common interest and the like. The cor munity groups can be closely identified with specific areas of land use and residenc and each has its own social structure. They are not formalized nor closely knit unit but they are basic to traditional land use and economy on the Reservation.

Although it still retains an important function in terms of limiting the marriag choice, the Navajo clan has lost many of its historical functions. A person acquire clan membership by the fact of birth into his mother's clan, and cannot marry member of that clan, a member of a closely related clan, or a member of his her father's clan, since clan "brothers" and "sisters" are considered in the sam manner as blood relatives insofar as marriage is concerned.

Briefly, the foregoing purports to be a sketch of Navajo social organization, an to a great degree, **as a generalization,** it is still true with regional variations, of majority of the Navajo people. However, the Navajo are undergoing rapid cultura change. Diversification of the Navajo economy, formal schooling, pressures fo acculturation and a multitude of allied forces are working toward the individualizatio of the group. In his traditional society the individual functioned as a member of group; in the western European society into which he is being integrated he is unde pressure to function as an individual. He pays rent on his house, lives by wages ir stead of the land or by a combination of the two, must live at the location of h wage work all or part of the time, etc. Thus, a generalized description of Navaj social organization must, perforce, fit only a segment of the group and be a highl relative matter:

DRESS: Generally speaking, Navajo men dress in what is commonly known a "western" garb including levis, western shirts, cowboy boots, etc. Some still mak and wear excellent moccasins. The women characteristically wear long fluted calic skirts and contrasting velveteen blouses, often with a Pendleton blanket draped ove the shoulders. Both men and women commonly wear varying quantities of silve urquoise, coral and abalone shell jewelry, including earrings, bracelets, rings, neck-aces and ornate buttons and belts, especially in public. Some men still wear their hair long, tied in a knot behind their head with white woolen yarn in a style similar to that used by most of the women.

However, a majority of the men nowadays cut their hair, and an increasing number of the younger women cut and curl their hair after the fashion of the white women, and wear conventional dresses or combinations of commercial blouses with the traditional skirt.

POLITICAL ORGANIZATION: About a century ago when the territory occupied by the Navajos became a part of the United States there was no such thing as a Navajo Tribe in a political sense. There were local leaders or headmen as we mentioned in connection with the extended family and community groups, with varying amounts of local persuasive power, but no hereditary chiefs with coercive powers, and no representative governing body with either persuasive or coercive powers over the whole tribe. According to legend there was formerly a tribal political organization called the **naachid,** presided over by twenty four chiefs elected to office for life. Of these, twelve were Peace Chiefs and twelve were War Chiefs. It is said that the **naachid** gathered periodically for ceremonials and council, and the Peace Chiefs or the War Chiefs would dominate the meetings, depending upon circumstances. However, if there was ever indeed such a Tribal organization it was not apparently a potent force in Navajo political life at the time the United States Government entered the picture in 1846.

Treaties were made between the military and the Tribe through the headmen, and administrative personnel attempted to control the Tribe, implement programs and institute policies through the same medium. In fact there was a time when, if designated headmen failed to achieve desired results, they were replaced by puppet "headmen" armed with badges and documentary proof of authority—needless to say, such "leaders" were powerless.

Prior to 1934 the Navajo Reservation was administered through 5 separate agencies (6, including the Hopi-Navajo Agency at Keams Canyon), a fact which did not make for the development of tribal unity. Without a political mechanism or self help, the people as well as their leaders were dependent upon a quasi-paternalistic Superintendent in whose lap they were accustomed to place their prob-ems. In an effort to encourage local communities to seek solutions to their own problems, and as a step toward improved communications between the Navajo people and the Bureau of Indian Affairs, Mr. John Hunter began, in 1927, the development of local community organizations known as Chapters. The first Chapters were established in the Leupp Agency area where Mr. Hunter was then Superin-endent, and with his transfer to the Fort Defiance Agency a year later he con-inued the movement there. Subsequently, Suprintendent Samuel Stacher of the Crownpoint Agency and other Navajo Superintendents took up and spread the Chapter movement. To make the organization even more effective, local Councils were developed within the several agencies, composed of delegates from each of the local Chapters. The development of the Chapters was an early step in the direction of democratic self-government, and the extent to which these institutio found a place in Navajo life is reflected in the fact that they continue in ma communities to the present day although they do not currently occupy an offic position in the Tribal government. However, they are recognized in the propos Tribal Constitution, and the Tribal Council is encouraging the development of Cha ter organizations in communities where there are none. In fact, many of the 80 more Chapters still active today utilize community meeting houses constructed wi materials contributed by the Government and labor donated by the local India and in the past 3 years several communities have built new Chapter houses wi materials wholly or partly provided by the Navajo Tribe, or have repaired existi Chapter houses with Tribal assistance.

Before 1923, Navajo Superintendents periodically called Councils of Headm to discuss matters of program and policy, and from 1910 on there was a growi need for some type of representative Tribal organization empowered to act f and on behalf of the Navajo Tribe, especially in connection with mineral and leases. For many years, the Navajo had been controlled largely by military force keeping with the policy of the times, and to some extent there was perhaps a hop that a new tool for administrative suasion, if not coercion, might be developed the form of a Tribal Council, the members of which would be expected to produ compliance on the part of the people.

Whatever the motivation may have been, aside from the need for a represent tive group authorized to act on mining and oil leases and other matters affectin the entire Navajo Tribe, in 1923 Mr. E. D. Merritt, then Acting Commissioner Indian Affairs, promulgated a set of regulations in accordance with which a Nava Tribal Council was to be organized. The regulations included a preamble to th effect that "The Navajo Indian Reservation situated in the states of Arizona, Ne Mexico and Utah, being extensive in area and the number of Indians of said Nava Tribe having rights therein being numerous and widely distributed in their habita and in order to promote better administration of the affairs of the Navajo Tribe Indians in conformity to law and particularly as to matters in which the Navajo Trib at large is concerned such as oil, gas, coal and other mineral deposits, tribal timb and development of underground water supply for stock purposes, etc., the followi regulations are hereby prescribed and promulgated . . ."

"There shall be created a continuing body to be known and recognized as th Navajo Tribal Council with which administrative officers of the Government ma directly deal in all matters affecting the Tribe."

The regulations provided for the establishment of a Council composed of Chairman, Vice-Chairman and twelve delegates, the latter representing each of th five Navajo jurisdictions and the Hopi. Elected with each of the twelve delegat was an alternate to act in lieu of the regular delegates in the latter's absence. If a area refused or neglected to elect a delegate and an alternate, the regulatio provided that the Secretary of the Interior might select one arbitrarily. Terms office for the Chairman and the Vice-Chairman were designated as four years, b no term was specified for delegates or alternates. Provision was made for the calli of Council meetings by the Commissioner of the Navajo Tribe at times and plac to be determined by him. The regulations did not provide for voting by wome

In 1928 the Council regulations were revised to specify four year terms of ffice for delegates and alternates, and to give both men and women the right vote.

Obviously, the early Councils were not democratic functional governing bodies any sense of the word, nor was the main body of the Navajo people ready for ch a radical step at that time. It was a white man's invention.

On June 14, 1934, the Indian Reorganization Act was submitted to a referenum of the Navajo Tribe, and was rejected by a narrow margin in a vote of 7,992 7,608. Had the Reorganization Act been adopted, the Tribe would have proeeded to develop a constitutional form of self-government. Despite its rejection, eps were taken to develop a basic constitution, patterned after the IRA forms ut without the same legal status, and an improved Tribal Council.

In 1936, a committee was appointed to draw up plans for a larger and more presentative Tribal Council. Father Berard Haile led an appointed group to comb e Reservation in search of recognized leaders of great ability and prestige, with e result that 250 names were collected. Each Land Management District was portioned delegates on the basis of one such representative to each 400 population approximately, and from the list of 250 names, 70 were arbitrarily selected to mpose a constitutional assembly, the old Council was dissolved, and a provisional ecutive Committee was appointed by the Chairman of the Constitutional Assembly carry on "routine" Tribal business until the constitution could be completed and duly elected Council developed.

The constitution was not adopted, and the provisional Council then devoted self to the development of a mechanism for the election of Council Officers and elegates which, after much deliberation and many redrafts by the Bureau of Indian ffairs and the Department of the Interior, was finally promulgated in 1938 by the ecretary of the Interior under the name "Rules for the Navajo Tribal Council." The st election was held on September 16, 1938.

The Rules for the Tribal Council provided for a governing body composed of members and a Chairman and Vice-Chairman, to be elected every four years popular vote. The 74 election communities from which the delegates were to be ected were specified, and delegates were apportioned to the several Land Manjement Districts on the basis of population—approximately one to each 400-550 pulation. For election purposes the Reservation was divided into four parts, each rmed an "Election Province," and in election years the electors in each such ovince met to select the Province candidates for the Tribal Council Chairmanship. oting was accomplished by colored ballots, each candidate being identified by a lor. To be elected a candidate required a majority of the votes cast, and the nner-up became the Vice-Chairman. In view of the fact that no single candidate ually received a clear majority of the votes cast, it was usually necessary to hold run-off election after the main election.

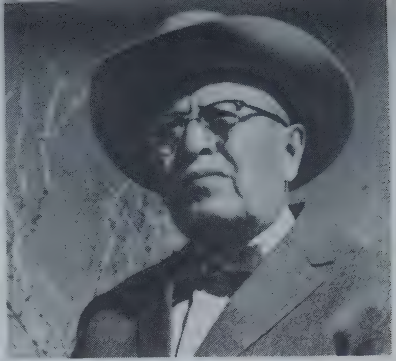
The Rules for the Tribal Council also provided for the establishment of an -member Executive Committee, to be composed of one Council Delegate from ch District, designated as the Chief Delegate. The Chief Delegates were to be osen by all of the Delegates in each District, and in the event the District Delegates could not agree among themselves on the choice of a Chief Delegate, Chairman of the Tribal Council would select one. However, the Executive Co mittee of the old Council had become identified with the development and appro of the livestock reduction program and the Grazing Regulations promulgated 1937, and the existence of such a committee was viewed with such suspicion a distrust that, after its reorganization, the Council refused to establish an Execut Committee. To the detriment of many categories of routine Tribal business Executive Committee was not reestablished until 1947, at which time it was restor in the form of the Advisory Committee.

The Tribal Council as reorganized in 1938 is still constituted along the gene lines of the 1938 reorganization, although it has grown enormously in the past years to become a much more genuine tribal government. The old 1938 "Rul were revised in 1950 to provide a pictorial paper ballot, and for election of ca didates on the basis of plurality vote. Also the candidates for Chairman are n chosen by convention delegates representing each of the election communities cated in the four Provinces. This latter provision gives each election community equal voice in the nomination of a Province candidate for the Chairmanship where formerly, when the electors had to be present personally at the nominating conve tion in order to nominate or support a candidate, those communities situated clos to the Province headquarters were represented at the nominating convention by disproportionately large number of electors, while more remote communities mi go without representation. In addition, the 1950 amendments included a provisi whereby the established candidates for the Chairmanship choose their own runni mates for the Vice-Chairmanship, and the pair is voted as a unit, as well as a pr vision for the election of the Judges in the Courts of Indian Offenses in lieu their appointment.

In 1954 it was necessary to again amend the Election procedure to provi for transfer of all responsibility in the conduct of Tribal elections from the Bure of Indian Affairs to the Tribe itself. Among other provisions, the 1954 amendme established a Tribal Board of Election Supervisors to carry out tribal elections behalf of the Tribe.

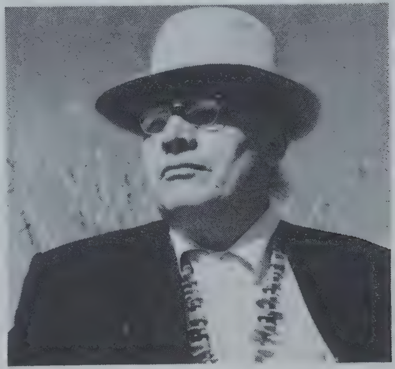
Following World War II, in 1946, a standing committee of 9 Council Delegat and 9 alternates was established to be on hand and constantly prepared whenev the need for a Tribal delegation to Washington might arise in connection with t promotion of a long range rehabilitation program for the Tribe. In 1947-48 t Council began to delegate responsibilities to the Standing Committee and it c veloped into an Executive Committee under the name of the Advisory Committe By Council resolution in 1951, a procedure was established for the reelection of t Advisory Committee from within the Council membership and by the Council as first act of business following each Tribal election. In the course of the past 7 yea with the enormous growth of Tribal responsibility in business and uranium minir the Advisory Committee has received a great number of delegations of author from the Tribal Council to act for and in behalf of the latter. The Advisory Co mittee normally meets for at least a week each month, while the Tribal Coun normally meets on a quarterly basis.

The Navajo Tribal Council House at Window Rock.



Paul Jones, Chairman of the Navajo Tribal Council.

The Navajo Tribal Council in session.



Scot Preston, Vice-Chairman of the Navajo Tribal Council.

In addition to the Advisory Committee, Council Committees on Health and Welfare, Education, Law and Order, Administration, Budget, Trading, Loans, Engineering and Resources have been established, and a Business Management Committee has been developed, the latter outside the Council.

Since the war, the Tribe has taken enormous strides toward the developmen of a concept of Tribal unity, and toward actual cooperation on a **Tribal** instead of a local basis, through its representative, elected Tribal governing body.

The Long Range Navajo-Hopi Rehabilitation Act which became law in 1950 authorized the Navajo Tribe to develop and adopt, by referendum, a Tribal constitution. A draft of the constitution has been developed and will soon be ready fo submission to the Navajo electorate. It defines and formalizes the powers of the Tribe through its Council, and formalizes the structure and powers of the Triba governing body. As the proposed constitution now stands, the Tribal Governmen would continue along its present structural lines.

With the establishment of the Indian Claims Commission in 1946, the Navajo Tribe secured the services of Mr. Norman M. Littell of Washington, D. C., as Claims Attorney, and as General Counsel for the Tribe. The Tribe has subsequently developed its own legal department including an Assistant General Counsel, a Lega Advisor, and others. This department is of value to the Tribe in providing necessary legal guidance in the conduct of Tribal business, as well as in developing Navajo claims against the Federal Government.

All in all, the Tribe has successfuly taken over a great burden of responsibiity formerly carried by the Federal Government, and in the course of the past decade has been in the throes of a very rapid social and economic revolution.

THE NAVAJO LANGUAGE

A detailed analytical description of the Navajo language would be entirely beyond the scope of the Navajo Yearbook, but perhaps a descriptive sketch would meet a need on the part of teachers in the Navajo schools and on the part of the interested public. Lack of familiarity with the general subject of language, coupled with lack of study of Indian languages specifically leads to many mistaken and absurd notions. For example, a recent article in the Sunday Supplement of a local newspaper, describing the Special Navajo Education Program, attributed difficulty experienced by the Navajo children in learning English to an alleged "lack of pronouns" in the Navajo language. Many Americans believe that all Indians speak a common "Indian language." Others refer to unrelated Indian languages as "dialects (of something)," and imagine them to be ultra simple, rudimentary "primitive" forms of speech. They are often described as "without any grammar" — i.e. lacking in grammatical organization, unsystematic, —as possessing a vocabulary of "only 400 words," as being immediately intelligible to returned missionaries speaking various oriental languages (because they are "the same language as Chinese, Japanese, Korean, etc.).

If a sketch of the Navajo language can be instrumental in correcting even a few of these prevalent misconceptions, wherever they exist, and in placing the subject of Indian languages in a more realistic perspective, with especial regard to teachers in the Indian schools, it will be a worthwhile addition to the Navajo Yearbook. The latter will be especially true if some of the difficulties experienced by Navajos in learning to pronounce and speak English can be made apparent.

Navajo — A Member of the Athabascan Family. (1) Our English language is a member of a group of related speech forms known as the Teutonic or Germanic languages. The members of this group include both modern and historical languages; they developed with the passage of centuries from a theoretical common ancestral form, and they more or less closely resemble one another in terms of phonology (their sound systems), morphology (their grammatical structure), syntax, and lexicon. Gothic, Old High German, Saxon, etc. are historical (dead) relatives of English, while modern German, Dutch, Swedish, Danish, etc. are modern (living) relatives.

The Teutonic or Germanic group is, in turn, although more distantly, related to other linguistic groups derived from a common remote ancestral form. The sum total of these interrelated groups of languages form a language family variously called the Indo-

European, Indo-Germanic, or Aryan Family. Other language groups joining to make up this great family include the Celtic (Gaelic Welsh, Manx, Cornish, Breton, etc.), the Italic (Latin, Oscan, Umbrian Italian, Spanish, French, Rumanian, etc.), the Balto-Slavic group (Lithuanian, Latvian, Russian, Bulgarian, etc.), the Greek (Doric, Aeolic, Modern Greek, etc.), the Hittite, the Tokharian the Indo-Iranian (Sanskrit, Bengali, Gujarati, Marathi, Old Persian, Avestan, Modern Persian, etc.), and several other groups.

These many Indo-European language groups, each composed of several languages, are interrelated, remotely or closely, with the closest similarities obtaining among the member languages within individual groups. Thus, the parallels between English and Saxon or Gothic, English and Danish or Dutch, are more obvious and numerous than those apparent between English and Sanskrit or English and Greek. Yet, all the Indo-European languages evolved with time and the accidents of history from a hypothetical single, common ancestral speech system known as Proto Indo-European. Similarly, the more immediate ancestral form from which the Teutonic languages developed is known as Proto-Germanic, or Proto-Teutonic.

The Navajo language is a member of a group of more than 45 related speech systems known as the Athabascan group. These languages are distributed throughout Interior Alaska (the Tanaina, Tahltan, Tuchone, Ahtena, etc.), northwestern Canada (Yellow Knife, Chipewyan, Slave, Dogrib, Carrier, Tsekani, Beaver, Sarsi, etc.), the northwest Pacific coastal region (Upper Umpqua, Chasta Costa, Hupa, Kato, Wailaki, Mattole, etc.), and the southwestern United States (Navajo, Jicarilla, Lipan, Chiricahua-Mescalero Apache, Kiowa Apache, etc.).

Other linguistic groups, remotely related to the Athabascan group, are the Eyak, the Tlingit and the Haida, and together they make up a family commonly known as the Na-Dene Family. Just as languages of the Indo-European Family are apparently unrelated to those of the Ural-Altaic, Hamito-Semitic, Ibero-Basque, Sino-Tibetan and other non Indo-European speech systems of the Old World, so also are the Na-Dene languages apparently unrelated to those of the Eskimo-Aleut, Uto-Aztecan-Tanoan, Hokan-Siouan, and other New World families.

At the time of the discovery of America there were probably at least 350 Indian languages, exclusive of dialectal forms, spoken on the North American Continent, not including nearly 100 in Mexico and Central America, and nearly 800 in the Antilles and South America. Of these, many have become extinct, especially in North America and the Antilles; some are dying out, and some remain the mother tongue of thousands of modern men and women, even in the face of acculturational pressures that will someday replace these precolumbian American languages with modern European tongues. In fact, many of the more than 81,000 Navajo Americans speak their tribal tongue to the exclusion of English, and no small number of Navajo children enter school with no previous knowledge of the English language.

Anthropologists, geologists, archaeologists and others believe that many American Indian Tribes, perhaps most of them, entered the New World area from Asia in prehistoric times, via the Bering Strait. If so, and despite the great time lapse, there should be evidence of cultural and linguistic affinity between peoples of the New World and peoples of Asia, and indeed Dr Edward Sapir, an eminent American linguist, believed that he had developed evidence of linguistic relationship between American Indian and Asiatic languages. However, before such relationships can be established, no small amount of archaeological, ethnological, philological and other research must be completed.

Due to linguistic borrowing, coincidental similarities and other factors, comparison of vocabulary receives the least emphasis in comparative linguistic analysis — phonology and morphology are features which receive primary emphasis in establishing relationship between languages. In 1952, Dr. Robert Shafer of the University of California, a comparative linguist working with the Sino-Tibetan language family, listed a number of simple word roots or stems in various Athabascan and Sino-Tibetan languages, with especial reference to apparent phonological correspondences. Thus, Kato ka- (motion up), Chipewyan -ka, Navajo -káá' (surface, on a surface; Classical Tibetan ka (on, above surface). Similarly, Chipewyan ke, Mattole -kxé', Kato kwe', Navajo ké (foot, moccasin) compare with Kukish (a Burmic language) ke (foot, leg), and Kato sai, Chipewyan θai, Navajo sáí (sand) compare with Burmese sai (sand, gravel), etc.

Although they differ to varying degrees in structure and phonology among themselves, the Athabascan languages are generally closely related in these respects, and share many elements of lexicon or vocabulary. The Apachean languages are mutually intelligible to a limited degree, although phonological and morphological peculiarities differentiating the several speech forms of this subgroup impose many restrictions on ready mutual understanding — more perhaps than obtain between Castillian and Portuguese.

Between the Apachean languages and their relatives in the north and northwest differences are much more pronounced, with the result that only isolated words and verbal stems would be understandable between such languages as Navajo and Sarsi, Chipewyan Carrier, etc. —in fact, the connotations of a similar verbal stem often vary from one of these languages to another. The following examples will illustrate a few of the similarities and differences between Navajo and some of the northern (Canadian) Athabascan languages. (In transcribing the northern languages, the same system of orthography is used as in the transcription of Navajo, with such phonemic adaptations as are required by some of the languages involved. The symbol θ represents the phoneme written as th in the English word bath; ñ represents ng in sing, and c is used for the vowel sound of a in all. The symbol dh represents the phoneme written th in the English word father. Lack of necessary type has made necessary the makeshift phonemic transcription used below. It will be noted that Chipewyan θ corresponds to Navajo s, and a trilled r corresponds to Navajo d, while dh often corresponds to Navajo z. The letter u is used with the value of oo in boot.

English	**Navajo**	**Sarsi**	**Beaver**	**Chipewyan**	**Carrier**	**Tsekan**
fire	kǫ'	kuu	kwon	kwon	kwon	kwon
firewood	chizh	——	chich	tsez	tsiz	tsiz
fish	tłúk'á		łúuge	łuwe	łooh	łuwe
grass	tł'oh	gwuutł'owí	tł'ógi	tł'og	tł'oo	tł'óo
hill	tsis, sis(?)	tsis	shís, xís	sheθ	shiθ	xis
dog	łééchąą'í	tłích'ą́	tłį́záa	łiñ	łii	tłį́į
horse	łį́į'	'ístłí	tłíinchog	łiñchog	yeeztłii	łínchoo
pack	xééł	ghał	xaił	xeł	xeł	——
ice	tin	nistiní	istíni	tin	tin	tin
island	noo' (stor. pit)	nuu	——	nuu	núu	tájiidze'
long	nineez	nitł'úlí	——	ninéédh	——	níjeezii
flesh	'atsį'	daní	'atsín	bʊr	'atθiñ	'atsin
sun	shá	ch'áát'ághá	sáa	saa'	saa	sáa
moss	-ts'áál (dláád)		ts'aal	ts'áatł	tθ'aal	dláád

English	Navajo	Sarsi	Beaver	Chipewyan	Carrier	Tsekani
person, man	diné	diná	dine	dena(yuu)	deneeh	dinée
rabbit	gah	gah	gaah	gaah	gch	gah
rain	níłtsą́	chą́	chǫ́ǫ	chą́ą	chan	chǫ́ǫ
sheep	dibé	damá	dibáa	'etθinsliinaaze	dibeeh	díbee
sleep	bił	mił	bił	beł	bił	——
smoke	łid	tłi	łid	——	łid	łid
snow	yas, zas	zas	yas	yaθ	yaθ	yas
star	sǫ'	su	son	tθon	som	som
stone	tsé	tsá	tsée	tθee	tθee	tsée
salt	'áshį́įh	dilák'í	——	dedhaai	——	t'oojéé
tree	tsin	dichi	dachin	dechin	dichin	dichin
water	txó	txu	chúu, txúu	txuu	txuu	txuu
I sat down	nédá	nisisdá	——	níídah	deesda'	——
I'm sitting	sédá	sisdá	——	θiidah	sisdaa	——
I'm talking	yáshti'	gusná	——	yastxi	yaasdag	——
I killed it	séłxį́	zisisxé	——	łeghániłθid	sisghai	——
he made it	'áyiilaa	'áyila'	——	'ayínláa'	'ayínlaa	——
I arrived	níyá	nanisha	——	níniya	nenáshyaa	——
we (2) arrived	niit'áázh	naniiya	——	níníit'az	néneit'az	——
we (pl) arrived	niildee' (niikai)	naniidáál	——	níníidil	néznindil	—
they died	neezná	txayiistsą́	——	θagháheniidée'	yahaadlaa	——
he died	daaztsą́	txadistsą́	——	θagháníyidhʋd	daazsai	——
old	sání, są́	sija	——	núúniiłθid	nisjan	neshjǫ́ǫ
I	shí	síní		sii	sii	——
you	ni	níní		nin	nin	——
he, she, it	bí	'iidiní		'édini	'en, ene	——
we	nihí	nahiní		nohoni	hweni	——
you (pl)	nihí	nahiní		nohoni	nohni	——
they	bí	'igidiní		núune	nuhni	——

*In the examples given above, the divergent word form for sheep in Chipewyan means literally **ugly little caribou.** Also, with respect to the various forms listed under the English word **moss,** a a Navajo form -ts’aal is given. This noun exists in Navajo only in the word ’aweets’aal, baby-board; cliff rose. The soft bark of the cliff rose is used as an absorbent diaper material by Navajos, while the Sarsi use a swamp moss called ts’aal for similar purposes. Likewise, the word tsis, sis (hill) probably does not exist in Navajo except perhaps in such compound placenames as (T)sisnaajinii, Naatsis’áán. In Navajo the word noo’ means **storage pit,** while in the northern languages it means **island.**

THE PHONEMES OF NAVAJO. The phonology of Navajo is relatively simple, although it exhibits many features foreign to English and other Indo-European languages — features which pose difficulties for the learner, whether the Navajo learning English or vice versa. The distinctive phonemes (i.e. those sounds which serve to distinguish meaning) of Navajo are listed and described simply and briefly herewith.

The Vowels and Diphthongs Unlike English vowels, those of Navajo occur short and long in duration, oral and nasoral, low or high in voice pitch or tone, and the features of vowel length, nasorality and tonal pitch (the relative high or low pitch level at which the vowel is pronounced) serve to distinguish meaning. Using the so-called Government System of transcription, the vowel is written in doubled form as in Finnish to indicate length; a subscript nasal hook represents nasorality, and an acute accent indicates high tone (if written on the first element of a long vowel (e.g. áa) it represents falling pitch; if on the second element it indicates rising pitch (e.g. aá). The vowels and diphthongs of Navajo are:

1.	a	a in father. Nav. bá, for him.
	aa	long a. Nav. saad, word; language.
	ą	nasoral a. French dans. Nav. są́, old age.
	ąą	long ą. Nav. naadą́ą́’, corn.
2.	e	in met. Nav. ké, foot; shoe; footwear.
	ee	long e. Nav. bee, with it.
	ę	nasoral e. Navajo doohęs, it will itch.
	ęę	long ę. Nav. -dę́ę́’, from.
3.	i	in it. Nav. ni, you.
	ii	long i (as in machine). Nav. biih, into it.
	į	nasoral i. Nav. jį́, day.
	įį	nasoral long ii. Nav. bįįh, deer.

4. o o in sole. Nav. tó, water.
   oo long o. Nav. dooda, no.
   ǫ nasoral o. French bon. Nav. sǫ', star.
   ǫǫ long nasoral o. Nav. dlǫ́ǫ́', prairie dog.
5. ai nearly as in I, eye. Nav. sáí, sand.
   aii; aai long ai. Nav. łigaii, white one; bínaaí, his brother.
6. ei, eii ay as in day. Nav. 'éí, 'eii, that; that one.
7. oi, oii as ewy in dewy. Nav. deesdoi, it's hot; niiłdoii, I heated it.

Unless they are preceded by another consonant, all Navajo vowels are preceded by a laryngeal closure written '.

Tonal pitch serves as the only distinctive feature to differentiate meaning in such words as: nílį, you are : nilį, he is; 'át'į, he does, he did it : 'at'į́, he is rich; 'azee', mouth : 'azéé', medicine.

Similarly, vowel length distinguishes meaning in bito', his water: bitoo', its juice; bitse', his rock: bitsee', his tail, etc.

Each syllable that composes a word in Navajo has its own inherent tonal pitch and substitution of a low tone for a high or vice versa may change the meaning or produce no meaning at all. Thus, 'áyiilaa, he made it, cannot be correctly pronounced as 'ayíílaa*, 'ayiilaa*, etc. Likewise, syllable vowels are inherently short or long in duration, and since vowel length distinguishes meaning, each vowel must be uttered with proper length. Under certain circumstances short vowels lengthen and long vowels shorten, following fixed morphophonemic rules, but lengthening of the first a or shortening of the second aa in such a word as 'ádzaa (to make 'áádzaa* 'áádza* etc.) would not be meaningful.

The Consonants of Navajo. ' This consonant, represented graphically by an apostrophe, is commonly called a glottal stop. It occurs frequently in Navajo, functioning as a distinctive phoneme. It does not occur as a distinctive phoneme in English, although it is found as a stop between the elements of such exclamations as oh oh! huh uh! As noted above, Navajo vowels always begin with a laryngeal closure unless preceded by another consonant. As a result, joining of word final consonants with the initial vowel of a following word does not occur in connected discourse in Navajo as it does in English. Thus, in the sentence, díí 'at'ééd 'ákǫ́ǫ́ 'ííyá (this girl went there) each word is separated from the preceding word by a laryngeal closure. Navajos rarely overcome this speech habit and commonly carry it over to English, with the result that their sentences sound choppy to the ear of the English speaking person. Drill designed to call the attention of the learner to the fact that English and Navajo differ in this regard would help in overcoming this aspect of non-standard usage. The laryngeal closure occurs as a syllable initial or final in Navajo. Thus, ’a’áán, hole; ’abe’, milk; ’atọo’, soup. Navajos learning to speak English frequently substitute ’ for word final stopped consonants in English. These include final: b, g, d, p, t and k. loo’ (look) bi’ (big, bit); ki’ (kick), etc.

2. b. The sound represented by b is neither voiced nor aspirated in Navajo — i.e. it is like neither English b or p, except as the English phoneme p is de-aspirated in such a word as spot (in contradistinction to the aspirated p in the word pot). b occurs initially, but never finally in Navajo syllables. Thus, baa, to him; ’abání, buckskin. Navajos learning English usually substitute their own b-sound for both English b and p.

3. ch. This phoneme, composed of t and sh, is very similar to the sound written ch in English. It occurs only as a syllable-initial in Navajo. chizh, firewood; dichin, hunger.

4. ch’. This sound does not occur in English. It is an explosive sound formed by closing the glottis while forming the ch-sound described above, and releasing the pent-up air suddenly at the same time the ch is articulated. ch’ah, hat. ch’ occurs only as a syllable-initial in Navajo.

5. d. In a manner analogous to b, the Navajo phoneme d is neither aspirated nor voiced, and is not identical with either d or t of English, but is similar to the de-aspirated t of English stop as contrasted with the aspirated phoneme in the word top. It occurs both as a syllable initial and final in Navajo, and the Navajo phoneme d often replaces both English d and t among Navajos learning to speak English. díí, this; saad, word, language.

6. dl. A combination of Navajo d and l, analogous to the gl of English glow. It occurs only as a syllable-initial in Navajo. Nav. dlo, laughter; yidlo, he is laughing. In learning English, Navajos often transfer dl to represent English gl.

7. dz. A combination of Navajo d and z, somewhat like the dz of English adze. It occurs as a syllable-initial only in Navajo. Nav. dził, mountain; bidziil, he is strong. Navajos learning English often pronounce such words as adze, adds, as though they were ats.

8. g. In a manner analogous to Navajo b and d, Navajo g is neither voiced nor aspirated. It sounds somewhat like the de-aspirated k of English skit in contrast with aspirated k in the word kit. It occurs as a syllable-initial or final in Navajo. gah, rabbit; dego deg, upward; ’at’oig, shoulder blade. Navajos learning English usually transfer Navajo g to represent the English sound of g and k.

9. x, h. The unvoiced velar spirant x of Navajo is roughly analogous to the (palatal spirant) phoneme written ch in German. x occurs only in syllable-initial position in Navajo and, although pronounced as a fortis by some speakers, is pronounced by many as a lenis -- i.e., it is pronounced laxly by most speakers. It is pronounced as a fortis when combined with other consonants (e.g., txó, water; yíchxǫ', it spoiled -- an emphatic augmentative pronunciational form of yíchǫ', is spoiled). x is exemplified in xaxashgééd, I am digging (a hole); xai, winter; xah, quickly.

The sound properly represented by h is an aspiration produced by stricture of the glottis, and properly occurs only as a syllable-final, as in xah, quickly; xaxohgééd, you (duo-plural) are digging (a hole); t'áá sahdii, alone; ch'ah, hat.

In careless speech x is sometimes pronounced as h and, intervocalically, the spirant is sometimes voiced. Thus, nixí, we, is commonly heard as nihí, sometimes with a voiced h (comparable to wh in English who). Also t'áá sáhí, alone, is frequently pronounced with a voiced h.

10. gh. This is the voiced correspondent of x described above. The sound does not occur in English, and occurs only in syllable-initial position in Navajo. gha'diit'aahii, lawyer; hooghan, hogan. gh is a (voiced) velar spirant.

11. j. The symbol j represents a consonantal diphthong composed of d and zh, and sounds somewhat like the j in the word jug. It occurs only in syllable-initial position. jį́, day; 'áájí, on that side. Navajos learning English usually transfer Navajo j (composed of Navajo d) to replace the English phoneme, with the result that such a word as bridge tends to sound like britch.

12. k. Navajo k sounds similar to English k in kin, cow, although Navajo k is usually more fortis and more heavily aspirated than its English correspondent. kin, house; kǫ', fire. k occurs only as a syllable-initial in Navajo.

13. k'. A clicked k-sound produced by simultaneously releasing the back of the tongue from a k-position against the soft palate, and opening the closed glottis. It occurs only as a syllable-initial in Navajo. k'ad, now; 'ak'ah, fat, grease.

14. l. As in English lot, all, but more fortis and fully released. látsíní, bracelet; biil, squaw-dress. It occurs in syllable initial or final position in Navajo.

15. ł. The surd correspondent of l described above. This sound does not occur in English, but Navajo ł bears the same relationship

to l as s bears to z, f to v, etc. It occurs as a syllable initial or final in Navajo. łid, smoke; 'ił, conifer needle; biłóó', his fish.

16. m. As in English mud. Occurs only as a syllable-initial in Navajo. mą'ii, coyote; shimá, my mother.

17. n. Similar to n in no. It frequently occurs as a syllabic n in Navajo, acoustically approximating the initial n in English n'nen (and then). In Navajo syllabic n takes the tonal pitch of the elided vowel. ninínil, I set them down (nnínil, ńńnil). n occurs as a syllable-initial or final in Navajo. ndi (nidi), but; diné, man, person; sin, song.

18. s. Similar to s in sit. It occurs as a syllable initial or final in Navajo. sis, belt; yistin, it is frozen.

19. sh. Like sh in she. sh occurs as an initial or as a final in Navajo syllables. shash, bear; yishdlo, I am laughing.

20. t. Something like English t, but always in combination with x in Navajo (tx). t occurs only in syllable-initial position. tó (txó), water; 'atoo' ('atxoo'), juice.

21. t'. In a manner analogous to ch' and k', t' represents a sound produced by simultaneous release of the tip of the tongue from the t-position and opening of the glottis. It is commonly described as a clicked sound, and does not occur in English. It occurs in Navajo only in syllable-initial position. t'iis. cottonwood; 'át'é, it is; nát'oh, tobacco, cigaret.

22. ts. Somewhat like the ts of English hats, but aspirated in Navajo, and never occuring as a syllable-final, but only as a syllable-initial. tsin, tree; 'atsį', meat, flesh; bitsoo', his tongue.

23. ts'. Like ch', k', and t' described above, ts' is produced by simultaneously releasing the tip of the tongue from the ts-position and opening the glottis. The sound does not occur in English, and occurs in Navajo only as a syllable-initial. ts'in, bone, skeleton; bits'a', its pod; ts'aa', basket.

24. tł. A combination of t and ł. This sound does not occur in English, and occurs only in syllable-initial position in Navajo. tłah, ointment; ditłéé', it is wet.

25. tł'. Analogous to ch', ts', t', k' described above. The phoneme is produced by simultaneously releasing the tongue from the tł-position and opening the glottis. It occurs only in syllable-initial position. tł'oh, grass, hay; bitł'ízí, his goat.

26. w. Like in English win, but occurs only as a syllable-initial in Navajo. waa', beeweed; bee we' 'azlį́į́', it was approved.

27. y. Like in English yes. It occurs only as a syllable-initial. yá, sky; yas, snow; biya', his lice.

28. z. Like English z in buzz. It occurs as a syllable initial or final in Navajo. biziiz, his belt; bizid, his liver.

29. zh. Similar to s in English pleasure. Occurs in syllable initial or final position in Navajo. 'ázhi', name; 'oolzhiizh, he danced.

30. xw (hw). x (h) plus w. Roughly akin to English wh in when (when pronounced as hwen instead of as wen). hwee, by means of him; hwiih, satiation, into him. xw (hw) occurs only as a syllable-initial in Navajo.

31. kw. k plus w. Similar to qu in English quill, and occurs only in syllable-initial position. kwii, here; kwe'é, here.

32. ghw. gh plus w. Occurs only in syllable-initial position, as a combination of gh plus w. 'aghwéé', baby.

The Navajo consonants g, tx, k, x (h), and gh are palatalized before the vowels e, i, and labialized before o. That is, in going from the g-, tx-, k-, x- or g-position to form the vowels e and i, the back of the tongue touches the back palate in the y-position, in a manner analogous to py in the English words puny, butte, mute, or in dialectal tyown for town. Thus, in Navajo, ge' (gye'), hark! txééh (txyééh), valley; ké (kyé), foot, shoe; xééł (xyééł), pack; bighéél (bighyéél), his pack. Labialization means that in going forward from a g-, tx-, k-, x- or gh-position to form the vowel o, the lips are rounded to approximate a w-position. Thus, bigod (bigwod) his knee; txó (txwó), water; bighoo' (bighwoo'), his tooth; kót'é (kwót'é), it is thus; xó (xwó), he, she. In fact, gh before e and i is so strongly palatalized that the spirant is heard weakly, and ghy sounds almost like y; similarly, gh before o is so strongly labialized that it sounds almost like w. Thus, bighyéél sounds nearly like biyéél (his pack), and bighwoo' sounds nearly like biwoo' (his tooth); ghwolghyé sounds like wolyé (he is called).

The suffixes -go, -góó are not labialized, but the prefix gó- in the noun gólízhii (gwólízhii) is usually labialized. Neither is k- labialized in the word kǫ́ǫ́, here, through here. g is usually labialized when it occurs short in a closed syllable (a syllable that ends in a consonant); in other positions it may not be labialized.

All Navajo words are composed of monosyllabic elements, and the syllables may be open or closed — i.e. they may be composed of a consonant plus a vowel (CV) or a consonant plus a vowel plus a consonant (CVC). All Navajo syllables begin with a consonant, including ', the laryngeal closure. Thus, the word 'ak'ah, grease, is composed of the open syllable 'a- plus the closed syllable -k'ah ('a-k'ah); yi-sháál, I am walking along; ghoh-'ash, you dual are walking along; bazh-di'-doo-'áál, he will permit him; bi-da-dizh-'(a)-doo-'áál (bidadizh'doo'áál), he will put a cover on it, etc.

In learning to pronounce English Navajo children transfer phonemes from Navajo to represent phonemes of English which may or may not be closely related to those of Navajo. This pronunciation pattern frequently becomes fixed or habitual as the children practice English with one another, often with no opportunity for frequent practice with native speakers of standard English whose pronunciation they could otherwise copy. This is especially true in the Reservation schools and communities where the number of English speaking persons is limited, and once a faulty pronunciation is established as a speech habit, it is difficult to overcome, even if the person subsequently leaves the Reservation environment.

Some Navajo children never learn to produce accurately such English phonemes as the th-sounds (θ, dh), and substitute d or t as the nearest Navajo correspondents, pronouncing mother (modher) as mudder, and bath (baθ) as bat or ba't. The phoneme represented as r in English often becomes w to produce wun for run; cwank for crank; or l to produce cabuleta for carburetor.

The phoneme written ng may be represented by some Navajos speaking English as a nasalization of a preceding vowel to produce sęę or sęęn for sang; Rǫǫ or Rǫǫm for Rome, etc. The English phonemes written j, ch, both become Navajo ch (tsh), and such words as gyp and chip sound alike. Word final stopped consonants may be replaced by a glottal stop ('), or the consonant may be preceded by a glottal closure and unreleased, as in the pronunciation chi'p, in which the lips take the p-position, but the actual stop is produced by closing and releasing the glottis, instead of by closing and releasing the lips. This is true of many of the stopped consonants of English, and especially of those that are never syllable-finals in Navajo.

No effort will be made in the present sketch to describe the allophones of Navajo — i.e. the variants of the distinctive phonemes as those phonemes vary phonetically because of position with relation to other preceding or following sounds. For example, the phoneme represented by t in English has many allophones, as illustrated by its variant phonetic quality in such positions as in tin, nit, stop, hat, batting, etc. When word-initial, t is aspirated; when final or preceded by s it is not aspirated, etc. Likewise, in Navajo, the vowel i assimilates to a following ą in such a word as si'ą́ (sυ'ą́), it sets (a single, roundish object). The symbol υ is used to represent the sound of u in but.

In the foregoing sketch of Navajo phonology we have mentioned some of the difficulties encountered by Navajos in learning to pronounce English correctly — difficulties that contribute to the so-called **accent** in speaking English. Several other factors also contribute to non-standard pronunciation, including:

1. The English phonemes represented by the letters f, v, gl, d, g, b, p, f and ng have no corresponding sounds in Navajo, or only rough correspondents (in the instance of d, g, and b). They must be learned as unfamiliar sounds, with their many allophones or phonetic variants. Similarly, some of the English vowel phonemes do not occur in Navajo (the a in sat; the a in awl; the oi in oil, etc.).

2. Only the consonants ', d, g, n, s, sh, z, zh, l, ł and h may be syllable finals in Navajo, whereas a great variety of consonants, and consonantal clusters may be word-final in English. Some of these are: (b) bob; (bd) bobbed; (bz) bobs; (ch) itch; (cht) itched; (d) pod; (dz) adds; (dst) midst; (dθ) width; (dθs) widths; (f) if; (fs) chafes; (ft) soft; (fts) wafts; (fθ) fifth; (fθs) fifths; (g) big; (gz) hogs; (gd) hogged; (j) bridge; (jd) bridged; (k) kick; (kt) kicked; (ks) fix; (kst) fixed; (ksθ) sixth; (ksθs) sixths; (l) bill; (ld) billed; (lz) bills; (lb) bulb; (lbz) bulbs; (lf) shelf; (lfs) Ralph's; (lm) elm; (lmz) elms; (lk) elk; (lks) elks; (lp) help; (lps) helps; (lz) kills; (lθ) health; (lθs) healts's; (lv) solve; (lvz) solves; (ls) else; (lfθ) twelfth; (lfθs) twelfths; (md) hummed; (mz) hums; (mp) hump; (mps) humps; (mpt) jumped; (mpts) exempts; (mf) triumph; (mfs) triumphs; (mθ) warmth; (nd) (ndθ) thousandth; (ndθs) thousandths; (nz) warns; (nt) ant; (nts) ants; (ndz) commands; (ns) once; (nθ) tenth; (nθs) tenths; (nch) inch; (nj) hinge; (njd) hinged; (ng) hang; (ngd) hanged; (ngg) finger (ngz) hangs; (ngk) ink; (ngkt) inked; (ngkθ) length; (ngkθs) lengths; (ps) pops; (pt) popped; (pθ) depth; (pθs) depths; (rd) cured; (rz) bars; (rb) barb; (rbz) barbs; (rp) harp; (rps) harps; (rt) cart; (θ) bath; (θs) froths; (θt) frothed; (dh) bathe; (dhd) bathed; (dhz) bathes, etc.

The Navajo must learn to pronounce many unfamiliar sounds in their simple form and, to the learner, a large number of barbarous clusters, and these in unfamiliar positions. To further complicate the matter, English orthography does not usually represent phonetically the phonemes that compose a word which is first encountered in written form. There is no clew regarding the pronunciation of th (dh) in the word though (dhou) since the digraph th represents two distinct phonemes in written English (θ and dh), nor is there any indication that the ugh is merely an orthographic embellishment. A good basic knowledge of the phonology of both English and Navajo could be of inestimable value to teachers concerned with teaching English to Navajo children and adults. By

English phonology in this connection, we do not refer to the traditonal approach, still common in the schools, wherein the vowels of English, for example, are described as being **short** and **long** (the vowel a distinguished as short in sat,and long in Kate). Obviously, there is no question of vowel length involved in the distinction between those two examples. The a in Kate represents a diphthong (ey), while the vowel in sat is a simple vowel. We refer to scientific literature on English and Navajo phonology, such as that written by Leonard Bloomfield, George Trager, Harry Hoijer and others.

WORD CLASSES AND STRUCTURE

The Personal Pronouns. In Navajo the personal pronouns occur disjunctively (independently) and conjunctively (as prefixes with nouns, postpositions and verbs. The personal pronouns occur as subjectives, possessives and objectives, and are found as independent elements only when used as subjectives and possessives. We will provide a listing to exemplify these several classes, but will not list all of the variant forms.

	DISJUNCTIVE		CONJUNCTIVE		
Person	**Subjective**	**Possessive**	**Possessve**	**Subjective**	**Objective**
1.	shí	shí, shíí’	shi-	-sh-	shi-
2.	ni	ni, níí’	ni-	-ni-	ni-
3.	bí	bí, bíí’	bi-	———	bi-
3o.	———	———	yi-	yi-	yi-
3a.	hó	hó, hwíí’	ha-	ji-	ho-
3s.	———	———	ha-	ho-	ho-
3i.	———	———	’a-	’a-	’a-
Rec.	———	———	’ał-, ’ahíł-	———	’ahi-
Refl.	———	———	’á-	———	’ádí-
1.	nihí	nihí, nihíí’	nihi-	-ii-	nihi-
2.	nihí	nihí, nihíí’	nihi-	-oh-	nihi-

In the examples given herewith below the pronominal prefixes are separated from other prefixes, from nouns, verbal stems etc. by hyphens for the sake of clarity and simplicity.

Pronouns of the first person singular are translatable as I, mine, my, me, depending upon form and context. Thus, shí, I; mine; shi-lį́į́’, my horse; yi-sh-dlą́, I drink it; shi-níłtį́, he brought me.

The second person singular is translatable as you, yours, your, you,as in ni, you; yours; ni-lį́į́’, your horse; ni-dlą́, you drink it; ni-níłtį́, 1 brought you.

The third person is more complex. The form identified as 3. is translatable as he, she, it, they, his, hers, its, him, her, it, them, etc. depending upon function and context. There are no separate forms marking gender in Navajo as there are in English, a fact that makes for much confusion and difficulty on the part of Navajos learning English. Examples are bí, he, she, it, they, his, hers, theirs, his, her, their, etc. bi-lį́į́', his, her, their horse; as the subject of a verb the 3. person is represented by zero (although bí as the subject is implied in the 3o. prefix yi-) as in yidlą́, he is drinking it; bí-bi-yiił'ą́ą́', I taught it to him (the first bi- represents that which is taught; the second -bi- stands for the person to whom it was taught).

The third person form identified as 3o. is an oblique pronominal form indicating action of a third person subject (bí) on a third person object (bi-). Thus, yi-dlą́, he drinks it; yi-ghan, he acting on it, his home. If the noun immediately preceding the verb, or preceding an expressed noun object, is the subject of the verb, yi- is used as the third person pronominal objective form, as in the sentence 'ashkii tł'iish yiyiisxį́, the boy killed the snake. If the second noun (tł'iish, snake) is the subject of the verb and the first noun is the object ('ashkii, boy), the verb must use the pronominal prefix bi- instead of yi-. Thus, 'ashkii tł'iish biisxį́, the snake killed the boy.

It will be noted that the same form (bí) translates all genders of English, as well as singular and plural number in the third person. Thus, bí signifies both he and they, and the number of objects represented by yi- may similarly be singular or plural as required by context or verbal stem.

The third person form marked 3a. may refer only to persons, and not to things. It is used as a second person singular form in discourse between a married man and his married sister, and between a man and the husband of his sister's daughter (baadaaní). It is illustrated by hó, he, she, they, his, her, their, etc.; ha-łį́į́', his, her, their horse; ji-dlą́, he drinks it; ho-níłtį́, I brought him, her.

The third person form identified as 3s. represents space, area or impersonal it as subject, object, or posessive pronoun, as in hoolzhiizh, time passed; ho-niiłdoii, I heated it (a space or room, in contradistinction to niiłdoii, I heated it — a tangible object).

The third person form given as 3i. represents an indefinite subject, object or possessor. It is roughly similar to English someone, something (indefinite or unmentioned). All transitive verbs in Navajo must represent the direct object of verbal action by a pronominal prefix which must be something, someone indefinite if no definite object is expressed. Thus, yi-dlą́, he drinks it; but 'a-dlą́, he drinks (something not mentioned specifically). The indefinite pronoun subject or object is 'a-, often represented in verb constructions only as ' with elision of the vowel (da'jidlą́, they drink). 'a- does not occur disjunctively. Examples of other usages are: 'a-tsii', hair (i.e. something's hair); 'a-sh-dlą́, I drink; ha'adziih, speaking takes place (i.e. indefinite someone says something indefinite — in contradistinction to haadziih, he speaks). When both the subject and the object of a third person verb form are indefinite and represented by 'a-, a single pronoun form represents both, as in the form 'a-dlą́, he drinks; or drinking takes place (someone indefinite drinks something indefinite).

Generally speaking, body parts and products, as well as geneological relations, do not exist without a possessor. One does not find hair, milk, flesh, heads, hands, or even fathers and grandfathers in existence without the connotation of possession by someone or something. They differ in this respect from stones, rivers, and mountains. Therefore, nouns of this type are expressed as constantly possessed forms in Navajo, and if no definite possessor is specified, the indefinite pronoun prefix 'a- must be used. Thus, 'a-tsii', hair (not tsii'); 'a-tsį', flesh (not tsį'); 'a-be', milk (not be').

In addition, one can be the primary or the secondary possessor of nouns of this class, in which case both must be represented by a pronoun prefix. Thus, she-'a-be', my milk (secondarily possessed by me, but produced by mammary glands belonging to something unspecified); she-'a-tsį', my (secondarily possessed) meat, etc. If the last two examples pertained to my own body they would be si-tsį', my flesh, and shi-be', my milk.

The Reciprocal pronoun prefix is generally translatable as each other, each other's, one another, etc. Thus, 'ał-k'i, on each other; 'áhíł-la', each other's hands; 'ahi-joot'į, they see each other.

The same pronoun prefix forms are used as possessives with nouns and as the subject of postpositions.

The Reflexive pronoun prefixes are used with reflexive forms of the verb to indicate that the verbal action falls upon the actor himself. Thus, tá-'ádí-s-gis, I am washing myself (in contradistinction to táná-s-gis, I am washing it); 'ádi-yé-sh-ghį, I killed myself (séł-xį, I killed him). The reflexive also occurs as the subject of postpositions, as 'á-k'i, on self.

The first person plural pronoun is nihí, we, ours, us. Also, nihi-łį́į́', our horse; y-ii-dlą́, we drink it; nih-iiłtsą́, he saw us.

The second person plural pronoun is also nihí, you, yours, you. nihi-łį́į́', your horse; gh-oh-dlą́, you (pl) drink it; nih-iiłtsą́, I saw you; nihi-deeshxą́ą́ł, I'll kill you (pl); nihi-dííghą́ą́ł, you will kill us (pl).

The Noun. Nouns, in Navajo, fall into several different classes. Like other Athabascan languages, and for that matter, other Na-Dine languages, there are a number of root nouns, many of which are simple verb stems used nominally. Thus, bąąs, hoop (naabąąs, it rolls about). The root nouns are monosyllabic, and include such common names for things as kǫ', fire; tó, water; bis, adobe, chíil, snowstorm; ch'ah, hat; dił, blood; sǫ', star; sis, belt; etc. Some root nouns change form when possessed, as tó, water: shito', my water; hééł, pack: shighéél, my pack; sis, belt: siziiz, my belt.

Another type of simple noun is constructed like a neuter verb, and is composed of a stem plus a prefix. Such are diné, man, person; dibé, sheep; didzé, berry; nát'oh, tobacco, cigaret, etc.

A third noun type is composed of an abstract verb form used as a noun. Thus, halgai, plain, flatland (lit. areal it is white); ha'a'aah, east (lit. something roundish [the sun] comes up out).

Agentive nouns may be formed by suffixing one of the noun forming elements -í, -ii, -ígíí to a third person verb form, as 'iisxíinii, killer, murderer ('iisxí, he committed murder [killed someone indefinite]); 'adiits'a'ii, interpreter ('adiits'a', he understands, he hears something unmentioned); 'ani'įįhí, thief ('ani'įįh, he steals). The noun forming suffixes impart the meaning **the one who, that which** to the verb. Thus, the noun 'ani'įįhí means literally **the one who** steals (something unnamed or indefinite).

Compound nouns are formed by combining simple nouns, or other parts of speech. Thus, tsésǫ', glass (tsé-, rock; -sǫ', star); tsits'aa', box (tsi-, wood; -ts'aa', basket); łeets'aa', dish (łee-earth; ts'aa', basket); tótł'iish, watersnake (tó-, water; tł'iish, snake).

A noun and a postposition are combined in such compounds as tsintah, forest (tsin--, wood, trees; -tah, among); tséghi', canyon (tsé-, rock; -ghi', within); naakaiitah, Mexico (naakaii, Mexicans; -tah, among). A noun and a verb stem are combined in tsénił, stone axe, axe (tsé-, stone; -nił, pound); tł'ohchin, onion (tł'oh-, grass; -chin, smell). A noun and a verb form are combined in tsinaabąąs, wagon (tsin-, wood; naabąąs, it rolls about); tónteel, ocean (tó, water; -nteel, it is broad, wide); gałbáhí, cottontail rabbit (gah, rabbit; -łbáhí, the one that is gray). Nouns are also formed by combining a postposition with a nominalized verb form, as in bá'ólta'í, teacher (the person for whom reading or counting takes place); bee'ótsa'í, pliers (the one with which grasping [as between the teeth] is done).

Some nouns are descriptive phrases, usually nominalized with one of the noun-forming suffixes mentioned above. Thus, naalghéhé bá hooghan, Trading Post, store (naalghéhé, merchandise; bá, for it; hooghan, home, hogan); ’atsiniltłʼish bee ’adinídíín, electric light (’atsiniltłʼish, lightning, electricity; bee, with it; ’adinídíín, light); béésh tó bii’ ńlínígíí, water-pipe (béésh, metal; tó, water; bii’, in it; ńlínígíí ⟨ ńlį́, it flows; -[n]ígíí, that which = the metal through which water flows).

Nouns denoting clan or people are formed by adding the suffix -nii, people, to a noun or verbal form. Thus, kiyaa’áanii, the Standing House people or clan (ki-, house; yaa’á, it towers up; -nii, people); béésh ńt’i’nii, the people along the railroad. The word dine’é, is also used to signify people, tribe, nation, as in naakaii dine’é, the Mexican people; the Mexican clan.

Most Navajo placenames are descriptive of geographic features. Thus, na’nízhoozhí, Gallup, N. M. (lit. the bridge); tóta’, Farmington, N. M. (between the waters); tó naneesdizí, Tuba City, Arizona (winding waters). Some are named for persons or events, as bááh díílid, Fruitland, N. M. (burnt bread) ;naat’áanii nééz, Shiprock, N. M. (tall chieftain = the Navajo name for former Superintendent Shelton).

A few nouns have been borrowed from Spanish and English, but the number of such loan words is small. Somewhat after the fashion of German, Navajo tends to devise its own designations for new things, rather than borrow such names from other languages. Nouns like gohwéí, coffee (from Sp. café); ’alóós, rice (from Sp. arroz); and nóomba, number (from English number) are borrowed.

Navajo nouns may be singular or plural in number, as the context may require, and without change in form. Thus, ch’ah, hat; hats; tł’ízí, goat; goats; k’os, cloud; clouds, etc. However, some nouns, referring to kinship or age groups may form a plural by the addition of a suffix -ké or -óó. Thus, ’ashkii, boy : ’ashiiké, boys; ’at’ééd, girl : ’at’ééké, girls; sitsóí, my grandchild : sitsóóké, my grandchildren; sik’is, my sibling (of same sex as myself) : sik’isóó, my siblings.

A distributive plural prefix da- is used with nouns, verbs and pronouns to distinguish individual as against collective plurality. Thus, daakǫ’, fires (scattered about but looked at as a group of individual fires rather than collectively); chádaashk’eh, gullies (sgl. cháshk’eh, gully); deiidlą́ (da-yiidlą́), we each (more than two) drink it; daabí, they (more than two, and each separately).

Whether a noun is singular or plural is apparent in the context in which it is used. Thus, diné t’óó ’ahayóí yiiłtsą́, I saw many people : diné ła’ yiiłtsą́, I saw a man (diné: man, person, people, men);

béégashii yah 'ahi'noolcháą', the (two) cows ran in : béégashii yah 'íijéé', the (more than two) cows ran in : béégashii yah 'eelghod, the (one) cow ran in (plurality in the instance of the verb **run** is indicated by three separate verbal stems, one referring to action by one animate object, another to action by two, and a third stem to action by more than two).

When one noun is expressed as the possessor of another noun, the second noun has a possessive (3rd person) pronoun prefix, as in béégashii bitsee', the cow's tail (lit. the cow - his tail); 'ashkii bich'ah, the boy's hat (the boy - his hat).

The Postpositions. In Navajo the postpositions perform a function comparable to that performed by the prepositions in English. Thus, -k'i, on; -yaa, under; -aa, to, about; -ch'į', toward; -á, for; -ił, with (accompaniment); -ee, with (instrumental), etc. The postpositions are bound forms, occuring usually with the pronoun prefixes of the same series attached to nouns as possessives. Thus, shi-k'i, on me; ni-yaa, under you; b-aa, to him; bi-ch'į', toward it; n-ił, with you; nih-á, for us, for you (pl); b-ee, with it, etc. Kin bich'į' yisháál, I am walking toward the house (lit. house it-toward I am walking along); tsé bee kin 'íishłaa, I built a stone house (lit. stone it-with house I made it). The postpositions also occur as verb prefixes, as illustrated by the postposition -k'i, on, above, over, in such constructions as: bik'izdéez'íį', he watches over him; bik'ihashta', I am entertaining him; shik'iildo, it (fog, smoke) enveloped me.

The Particles. In foregoing paragraphs describing Navajo phonology, it was pointed out that each syllabic element (pronominal, adverbial, modal prefix, verb stem, etc.) that composes Navajo words has an inherent pitch or tone which can be altered only in conformity with morphophonemic laws governing such alteration. Thus, although Navajo is not spoken without varying pitch for emphasis, or for the connotation of anger, surprise, etc., the inherent highness or lowness of syllable tones must be carefully distinguished since tone differentiates meaning. The fact that Navajo employs tone to distinguish meaning in this manner places certain restrictions on the use of sentence and word pitch as a medium through which to express such overtones of meaning as surprise, incredulity, disgust, interrogation, exclamation, etc.

In English we drop our voice pitch at the end of a simple declaratve sentence, and raise it at the end of an interrogative sentence, as in **the house is white; .is the house white?** Or we can vary the meaning of the sentence, this is your car, by pronouncing one or another of the component words more loudly, and at a higher voice pitch than the others. Compare: **this** is your car; this **is** your car;

this is **your** car; **this** is **your** car; this is your **car,** etc. With each variation of sentence and word pitch, the meaning is subtly varied.

In Navajo sentence and word stress is also used for similar purposes, but not in a manner totally paralleling English. If the final syllable of the last word in a sentence is high in tone, the sentence must end at a high voice pitch, regardless of whether it is declarative or interrogative. Thus, díí 'ashkii Kii gholghé, this boy is called Kee. The sentence ends at a high voice pitch because the stem -ghé is inherently high, and must contrast with the inherent low tone of the preceding syllable ghol-, although the sentence and word pitch may vary with díí uttered at a higher voice level than the rest of the words in the sentence. Sometimes a particle 'akon, often reduced to its ' (glottal stop) serves to mark the end of a sentence and the beginning of another, especially in narration, and in proceeding from one subject to a new one.

If the sentence díí 'ashkii Kii gholghé, this boy's name is Kee, is made interrogative, that fact must be indicated by use of one or more of the interrogative particles da' (introducing a question) and or -sh, -ísh, -shą'. Thus, da' díí 'ashkii Kii gholghé? da' díísh 'ashkii Kii gholghé? díísh 'ashkii Kii gholghé? is this boy's name Kee? In each instance the interrogative particle in Navajo replaces the rising sentence inflexion of English to indicate a question.

In like manner, in Navajo, the enclitic particle -'as suffixed to a noun or verb connotes scornful disbelief, as in deesk'aaz'as, co-o-ld! you think its **co-o-ld!** gah'as, a **ra-a-bbit!** In English the same effect is attained by vowel lengthening and falling pitch. Similarly, 'éí ga' shí 'ásht'į́, **I'm** the one who did it (not someone else, in which the particle ga' connotes the emphasis connoted by sentence pitch in English). The particle lá in some contexts indicates that one has just ascertained something of which he had previously been unaware, as in díí tsé 'át'éé lá, why, **this** is a rock! (I had thought it to be something else.)

The Navajo language uses these and a number of other particles to express connotations expressed by sentence and word pitch in English. Thus, Navajos learning to speak English must master a new and foreign pattern involving voice pitch as a medium for differentiating meaning.

The Verb. The Navajo verb is extremely complex, and morphologically it is totally dissimilar to the familiar verb structures and categories which characterize English and other Indo-European languages. The complexity of this feature of the Navajo language has frustrated many teachers and other Bureau employees in attempting to learn to speak Navajo, even when a working knowledge of the language would have been invaluable to them.

The Navajo verb has been described by many students of the language, including Dr. Harry Hoijer (whose series of articles in the International Journal of American Linguistics on the Apachean verb have been helpful in preparing the present sketch); Dr Edward Sapir, Fr. Berard Haile, Dr Gladys Reichard, Young and Morgan, and others.

For the purposes of the Yearbook, we will provide only a cursory sketch, touching on some of the more important features of verb structure, grammar, etc., and omitting many details.

Navajo verbs are composed of complexes of monosyllabic tense-modal, deictic, subjective and objective pronominal, adverbial, postpositional, and other types of elements prefixed to a monosyllabic stem or root. For the most part, the prefixes that make up these complexes are bound forms — i.e. they have no independent existence (like English -ing, for example). In English, adverbs, pronouns and the like are free, independent forms.

The verb stem denotes action or state of being in a generalized or abstract sense, without reference to agent, manner, time, recipient, etc. Some verb stems classify the objects to which they refer on the basis of shape, size, number, animate or inanimate nature, and the like. Thus, the stem -'aah refers to the **handling** of a single roundish object, in contrast with the stem tįįh, with reference to the **handling** of a single slender, stiff object; lé with reference to a single slender, flexible object; jááh, a profusion of small objects; nííł, plural separable objects; jooł, non-compact matter (e g. wool) etc. The term **handle** is here used with the broad meaning of acting on the object to move it or change its position in some manner.

If the agent (the subject of the verb) causes the object to move **to** someone, the stems given above (in their imperfective mode forms), modified by certain modal and pronominal prefixes, translate English **give, bring, take,** as in the examples: tsé shaa ní'aah, give (bring, take) me the rock (shaa, to me; ní'aah, you are in the act of causing it — a single roundish object — to move completively); nát'oh shaa nítįįh, give me a cigaret; tł'óół shaa ńlé, give me the rope; naaltsoos shaa níłtsóós, give me the (sheet of) paper; k'eelghéí shaa níjááh, give me the seeds; 'ásaa' shaa nínííł, give me the pots; 'aghaa' shaa níłjooł, give me the wool, etc. There is no single verb which, in Navajo, can fit the general concept denoted by English **give,** because Navajo expresses this action as one in which an agent causes an object of certain shape, number, etc. to move to someone.

The same stems, with other prefixes, express concepts rendered in English by a variety of unrelated verbs. Thus, for example, with the prefixes ńdi-, the meaning becomes **pick up, lift, choose,** as in tsé ńdii'aah, pick up the rock (i.e. cause a single roundish object to move upward from a surface); nát'oh ńdiitįįh, pick up the cigaret, etc. Again, with the prefixes nini- the meaning becomes **set down,** as in tsé niní'aah, set the rock down (i.e. cause it to move down to a surface) ; with náhidi-, the meaning becomes **turn over,** as in tsé náhidee'aah, turn the rock over; didi-, **put in the fire,** as tsé didí'aah, put the rock in the fire; 'ałnání-, **exchange position,** as in tsé 'ałnáníníił, exchange the positions of the rocks (i.e. cause them to move to each other's place), etc. (In the examples given above all verb forms are in the second person singular, imperfective mode, used as an imperative.)

Thus, the abstract concept **handle,** with respect to specific classes of objects, is modified by means of various prefixes to express the meanings connoted by a number of unrelated verbs in English. **Give, put, take, carry, pick up, choose, lift, set, bring, exchange, turn over,** etc. are all expressed by constructions employing the **handle** stems, with variant adverbial prefixes.

The concepts **chew, eat,** as well as numerous other verbal concepts, are likewise expressed by stems which classify the objects acted upon, with reference to size, shape, consistency, etc. Thus, 'atsį' yishghał, I am eating (chewing) meat; bilasáana yishkeed, I am eating (chewing) an apple; taaskaal yists'ééh, I am eating (chewing) oatmeal; naadą́ą́' yish'aał, I am eating (chewing) corn.

Number of actors involved may form the basis for classification by some stems, as -hááh, -'aash, -kááh, one, two, more than two animate objects walk or go. Thus, nish(h)ááh, I am in the act of arriving; noh'aash, you (dual) are in the act of arriving; nohkááh, you (more than two) are in the act of arriving. Similarly, the stems -teeh, -teesh, -jeeh, one, two, more than two lie down; -xééł, to kill one object : -ghą́ or -tseed, to kill more than one object; -xan, to throw one object : -tł'iid, to throw plural objects, etc.

Many Navajo verbs classify objects and actors after the fashion illustrated above. Likewise, many different types of English verbs are expressed by single Navajo verb stems, as in the case of the stem -hááh, refering to motion going or walking by a single actor. Thus, the stem in reference (or one of its morphophonemic variants) translates **ascend, descend, exit, arise, walk, start off, wander about, arrive, come, go, find, come upon, join, separate from, divorce, dismount, climb, protect, return,** and many others, with various prefixes. For example, haasháàh, I am descending; ńdiishdááh, I'm in the act of arising; dah diishááh, I am in the act of starting off; tádíshááh, I am wandering about; nishááh, I am in the act of arriving; bik'íníshááh, I am in the act of finding or coming upon it; bits'áníshááh, I am in the act of separating, going away from, him; bíishááh, I am in the act of joining it; hadaashááh, I am in the act of descending or dismounting; yisháááł, I am walking along; naashá, I am walking or going about; bich'ą́ą́h naashá, I am protecting (shielding) him; nánísdááh, I am returning; bits'ánínáshdááh, I am in the act of divorcing (returning back away from) him, her, etc. Obviously, the Navajo learning English must reshape his thought and expression patterns to express with unrelated verbs those concepts which he is accustomed to express with related forms in his own language.

The number of stem forms varies with regard to given Navajo verbs from a single form to as many as seven forms, each variant corresponding to different modes and aspects of the verbal action. Mode is that distinction which denotes the manner in which the verbal action or state of being is conceived, whether incomplete, complete, in progress, repeated habitually, desired, etc., while the aspect refers to the kind of action, whether momentaneous, continuative, occuring once, occuring in a series of repeated actions, etc. The prefix complex of the verb base distinguishes mode and aspect, and the stem often varies in form to indicate similar distinctions.

The imperfective mode connotes the fact that the action of the verb has begun, but has not been completed. Using the stem -'aah (handle a roundish object) for purposes of illustration, we have the momentaneous imperfective form taah yish'aah, I am in the act of putting it in the water (an action which I have begun, but which I have not completed, and one which will end the instant the object I am causing to move breaks through the surface of the water — a momentaneous action). It may be translated as a present tense in English, although in Navajo the imperfective is not as much concerned with the element of time, as with the state of completion of the action. The imperfective mode may also be continuative in aspect. That is, the acton of the verb has begun, and has not been completed but, unlike the momentaneous action of putting an object into water, the action is represented as continuing over an indefinitely long period of time. When the aspect is continuative, the imperfective mode requires the stem form -'á, instead of the momentaneous form -'aah. The continuative imperfective in Navajo may also be translated as a present tense form in English, as in naash'á, I am carrying it about; béésh naash'á, I carry a knife.

The perfective mode connotes the fact that the action of th verb is complete, and this mode is translatable as a past tense i English. The stem form (handle a roundish object) is -ą́ for th momentaneous perfective, as in taah yí'ą́, I put it in the water completed the act of putting it in the water).

The progressive mode describes the action or event as bein in progress, and the stem form is -'ááł. Thus, yish'ááł, I am carrying it along.

The usitative mode describes a verbal action as one which i habitually performed. The stem form in the usitative mode is -'ááh Thus, taah yish'ááh, I habitually put it in the water.

The iterative mode connotes repetition of the action, and requires the same stem as the usitative mode. Thus, taah násh'ááh I repeatedly put it in the water.

The optative mode connotes desire or wish, and with respect t the handle-verb (a roundish object), momentaneous aspect, the sten form is -'ááł. Thus, taah ghósh'ááł (laanaa), (would that) I migh put it in the water.

In the transitional aspectual forms describing an event — sickness — as coming into being up alongside one, the progressiv mode form of the stem is -'aał (instead of -'ááł), as in shąąh da hwiidoo'aał, I'll become sick; the momentaneous imperfectiv stem is -'aah, as in shąąh dah hoo'aah, I'm becoming sick; th perfective stem form is -'a' (instead of -'ą́), as in shąąh dah hoo'a' I became sick; the neuter perfective stem is -'ą́, as in shąąh da haz'ą́, I am sick; the usitative and iterative stem is -'aah, as i shąąh dah hoo'aah (dah náhoo'aah), I habitually (repeatedly) ge sick; and the optative stem is -'aah, as in shąąh dah hoo'aah (lá go), (would that) I might not get sick.

Thus, with relation to the several modal and aspectual form of the verb meaning to handle a roundish object, the stem form -'ááł, -'aał, -'aah, -'ááh, -'á, -'ą́, 'a' occur in conjunction with th various prefix complexes.

The semelfactive aspect (action happening one time) is distinguished from the repetitive aspect by both stem form and prefi complex in such verb constructions as sétał, I gave him a kick nánéétáál, I gave him a kicking (i.e. a succession of kicks).

Navajo verbs fall into four classes, distinguished in part by prefix occuring in position immediately preceding the stem, an called a **stem-classifier;** in part by the subjective pronominal prefix forms, and by other features of the verb construction. The ver classes are conveniently identified on the basis of the classifier in volved in a given construction as zero-class, d-class, ł-class, and l-class (the stem classifiers are zero, d, ł and l). The stem classifiers are illustrated in: the perfective mode stem -jįzh, smash, crush, has the ł-classifier in the construction shéłjįzh (-łjįzh), I crushed it; similarly, the perfective mode stem -ghod (one animate object ran), the stem classifier -l- is found, as in yílghod, he arrived running. In the verb yóbé, he is picking them (berries, etc.), there is no stem classifier — i.e. the classifier is zero, and the construction is called a zero-class verb.

d-class verbs are distinguished by the prefix -d-, or a morphophonemic variant, in position immediately preceding the stem. (It indeed occurs as -d- in some Athabascan languages in instances where it undergoes assimilation to the stem initial consonant in Navajo, as in Carrier nahadna, corresponding to Navajo naha'ná, he moves his limbs or body about.)

In conformity with morphophonemic laws governing assimilation, the d-classifier combines with various stem-initial consonants in different manners. Thus, it becomes t' before stem-initial ', and ' before stem-initial m or n, as illustrated in the forms yoo'į́, he sees it : yit'į́, it is seen; yóó' 'íímááz, it (a spherical object) rolled away : yóó' 'o'oo'mááz, the action of rolling away took place; hiná, he is alive : naha'ná, he moves about. Similarly, a gh-initial becomes g when preceded by the d-classifier, as in 'aséghe, I got married : náiishgeh, I repeatedly get married. Before many stem-initials, the d-classifier becomes zero, and the only clew to its presence is the characteristic pronoun prefix set required by the d-classifier in the imperfective and perfective paradigms of the verb.

The verb base is composed of a number of modal, adverbial postpositional and other types of prefixes, of which some of the more common are: di-, future tense (deesh'ááł, I'll bring it); yi-, imperfective mode (taah yish'aah, I'm putting it in the water); yi-perfective mode (taah yí'ą́, I put it in the water); ni-, perfective mode (baa ní'ą́, I brought, gave, it to him); si-, perfective mode (séł'ą́, I keep it); náá-, náánáá-, semeliterative, (náádeesh'ááł, I'll bring it again); ná-, ní-, ń-, iterative mode (nash'ááh, I repeatedly bring it); ní-, ń-, up from a surface (ńdideesh'ááł, I'll pick it up); ni-, n-, down ,completive (ni' ndeesh'ááł, I'll set it down); 'a-, into an enclosed space (yah 'adeesh'ááł, I'll bring it in); ha-, up out, up (hadeesh'ááł, I'll bring it up); ya-, up into the air (yaa'á, it protrudes up into the air); ch'í-, horizontally out (ch'ídeesh'ááł, I'll carry it out); hi-, successive actions (hideesh'ááł, I'll bring it one time after another); hada-, down (hadadeesháááł, I'll go down, descend); ná-, ní-, ń-, back, returning (ńdeeshdááł, I'll go back, return); naa-, na-, ni-, n-, about, around (naashá, I walk about); 'ahéé-, around in c circle ('ahééníshghod, I ran around in a circle); 'ahá-, in half ('ahádeeshgish, I'll cut it in two); nihi-, in many pieces (nihideeshtih, I'll smash it to bits); k'í-, in two (k'ídeeshnish, I'll break it in two).

The Imperfective Paradigm. There are two general types of paradigm in the perfective mode, one of which is disjunctive (without adverbial or other prefixes preceding the modal prefix yi-), and the other of which is conjunctive (adverbial or other prefixes precede the modal prefix and replace it, with certain morphophonemic assimilations). These are illustrated in the following examples:

THE IMPERFECTIVE MODE

Person	**disjunct**		**conjunct**	
1.	łeeh yish'aah	dish'aah	hish'aah	baa nish'aah
2.	łeeh ni'aah	dí'aah	hí'aah	baa ní'aah
3o.	łeeh yi'aah	yidi'aah	yii'aah	yaa yí'aah
3a.	łeeh ji'aah	jidi'aah	jii'aah	baa jí'aah
1.	łeeh yiit'aah	diit'aah	hiit'aah	baa niit'aah
2.	łeeh ghoh'aah	doh'aah	hoh'aah	baa noh'aah

łeeh yish'aah, etc., I am in the act of burying it (putting it into the ground — a single roundish object). The prefix yi- occurs in all persons except the second person singular (where it is replaced by subjective pronoun ni-, you), in the 3o. (where it is replaced by the objective pronoun yi-), and in the 3a. (where it is replaced by the deictic prefix ji-, he, she). In the second person plural y(i)- becomes gh- before -o.

If adverbial or other prefixes precede the imperfective mode prefix yi-, the latter drops out, and in the conjunctive paradigms a different subject pronoun set is required in some persons of the verb as illustrated in:

dish'aah, etc., I am in the act of starting to carry it (a round object). The prefix di- (inception) replaces yi- and takes a high tone in the second person singular to represent the subject pronoun -ni-, you. With the adverbial prefix ha-, up out, -ni- remains, however, as in hani'aah, you are in the act of carrying it up out.

hish'aah, I am in the act of bringing it one time after another. The prefix hi- indicates a succession of actions, action performed one time after another, and undergoes change in the 3o. and 3a. persons to produce a lengthening of the vowel of the objective pronoun yi- and the deictic prefix ji-.

baa nish'aah, I am in the act of giving it (a round object) to him. The prefix ni- forms a completive paradigm, taking a high tone in the second person singular to represent -ni-, you (subject), and itself becoming a high tone on the vowel of the pronoun prefix in the 3o. and 3a. persons.

The Perfective Paradigm. There are three perfective mode paradigms, distinguished in part by the modal prefixes yi-, ni- and si. The stem classifier determines which of several subject pronoun sets are required in a given verb construction. The ni-perfective is illustrated for a zero-class verb (perfective mode stem -'ą́), and a d-class verb (perfective mode stem plus d-classifier -t'ą́), as follows:

NI-PERFECTIVE

Person	**zero-class**	**d-class**
1.	ní'ą	biih neesht'ą́
2.	yíní'ą́	biih níínít'ą́
3o.	yiní'ą́	yiih noot'ą́
3a.	jiní'ą́	biishnoot'ą́
1.	niit'ą́	biih niit'ą́
2.	noo'ą́	biih nooht'ą́

ní'ą, I brought it (a round object).

biih neesht'ą́, I put my head into it (i.e. caused my own round object to move into it. It will be noted that -sh- represents the first person subjective pronoun in d-class verbs, whereas it is represented by a high tone in zero-class verbs. Other adverbial prefixes produce different morphophonemic changes, as yighaít'ą́ (instead of yighainít'ą́), he took it (a round object) away from him by force, and bighajít'ą́ (instead of bighazhnít'ą́), he 3a. person took it away from him by force.

SI-PERFECTIVE

Person	**zero-class**	**d-class**
1.	dah sé'ą́	'ádąąh dah hosist'ą́
2.	dah síní'ą́	'ádąąh dah hosínít'ą́
3o.	dah yiz'ą́	'ádąąh dah hast'ą́
3a.	dah jiz'ą́	'ádąąh dah hojist'ą́
1.	dah siit'ą́	'ádąąh dah hosiit'ą́
2.	dah soo'ą́	'ádąąh dah hosooht'ą́

dah sé'ą́, I set it (a round object) up on a shelf.

'ádąąh dah hosist'ą́, I committed a crime (i.e. I caused spatial it — a sorrow — to move and set up [like a round object] alongside myself. Cf. shąąh dah haz'ą́, I am sick [it sets up alongside me]).

YI-PERFECTIVE

Person	zero-class		d-class
1.	taah yí'ą́	hé'ą́	yishdlą́ą́'
2.	taah yíní'ą́	híní'ą́	yínídlą́ą́'
3o.	taah yiyíí'ą́	yiiz'ą́	yoodlą́ą́'
3a.	taah jíí'ą́	jiiz'ą́	joodlą́ą́'
1.	taah yiit'ą́	hiit'ą́	yiidlą́ą́'
2.	taah ghoo'ą́	hoo'ą́	ghoohdlą́ą́'

taah yí'ą́, I put it (a round object) in the water.

hé'ą́, I brought it one time after another (a round object).

yishdlą́ą́', I drank it.

The Progressive Paradigm. The progressive mode forms of the ver are distinguished by a prefix yi-, which produces certain morphopho nemic alterations when preceded by adverbial, pronominal, an other types of prefixes, as illustrated in the following examples:

Person	simple	with ni-	with objective pronouns
1.	yish'ááł	neeshkał	neeshtééł
2.	yí'ááł	nííłkał	shííłtééł
3o.	yoo'ááł	yinoołkał	shoołtééł
3a.	joo'ááł	jinoołkał	shijoołtééł
1.	yiit'ááł	niilkał	niiltééł
2.	ghoh'ááł	noołkał	shoołtééł

yish'ááł, I am carrying it along (a round object).

neeshkał, I am herding them along (sheep). Here a prefix ni- pre cedes progressive prefix yi-, and combines with it as indicated in th paradigmatic forms given above. Similar morphophonemic change take place if the objective personal pronouns are prefixed to th forms of the progressive paradigm, as illustrated with the progres sive mode forms of the verb -tééł, to handle a single animate objec Thus: I am carrying you along; you are carrying me; he is carry ing me; he (3a.) is carrying me; we are carrying you; you (pl) ar carrying me. (Cf. the future tense paradigm.)

The Future Paradigm. The future tense is formed by prefixing d (an inceptive prefix) to the progressive mode forms, producing mor phophonemic assimilations similar to those described in connectio with the progressive mode paradigm. Thus:

THE FUTURE TENSE

erson	simple	compound	
.	deesh’ááł	bizadínéesht’ááł	hideesh’ááł
2.	díí’ááł	bizadíníít’ááł	hidíí’ááł
3o.	yidoo’ááł	yizadínóot’ááł	yidiyoo’ááł
3a.	jidoo’ááł	bizadízhnóot’ááł	hizhdoo’ááł
1.	diit’ááł	bizadíníit’ááł	hidiit’ááł
2.	dooh’ááł	bizadínóoht’ááł	hidooh’ááł

eesh’ááł, I shall bring it (a round object). The future tense forms re also used in an obligatory (imperative) sense.

izadínéesht’ááł, I shall kiss her (i.e. I shall cause my own round bject — my head — to move to her mouth). In this example the refixes biza-, to her mouth, di- and ni- combine in position preced- ng the progressive prefix.

ideesh’ááł, I shall bring it (a round object) one time after another. he prefix hi- becomes y- in the 3o. person form.

he Optative Mode Paradigm. The optative mode employs a pre- ix gho-, the consonant of which (gh-) usually drops out when pre- eded by another prefix. Thus:

erson	simple	gho-+-yi-	hi- + -gho-
.	ghósh’ááł	ghoostséél	hósh’ááł
.	ghoó’ááł	ghóółtséél	hóó’ááł
o.	yó’ááł	yoołtséél	yiyó’ááł
a.	jó’ááł	joołtséél	jiyó’ááł
.	ghoot’ááł	ghooltséél	hoot’ááł
.	ghooh’ááł	ghoołtséél	hooh’ááł

hósh’ááł, that I might bring it (a round object). A rising tone on ne lengthened vowel of the prefix represents the subjective pro- oun -ni- (you) in the second person singular while, in the 3o. and a. person, the objective pronoun prefix yi-, and deictic ji-, replace h-. The optative usually requires a particle laanaa, would that, or go, would that not.

hoostséél, that I might see it (-tséél, progressive stem of verb see. he verb see has a prefix yi- with which the optative prefix joins in e example given. Cf. yideestséél, I shall see it.)

ósh’ááł, that I might bring it one time after another. As in other aradigms the prefix hi- becomes y(i)- in the 3o. (and 3a.).

The usitative and iterative mode paradigms are formed like the rresponding imperfective paradigm, but in many verbs there is a distinct stem form, and the iterative mode paradigm adds the pr fix ná-, ní-, ń-. Thus, dish'aah (imperfective), I am in the act starting to carry it (a round object) : dish'ááh, I habitually start carry it (usitative) : ńdísh'ááh, I repeatedly start to carry it (iter tive). The habitual nature of the act is often made clear with usit tive mode forms by adding the usitative particle łeh, habitually.

THE NEUTER VERBS

There is a class of verbs which express state of being, qualit appearance and other attributes, known as neuter verbs. These a conjugated in only one paradigm, in contradistinction to the acti verbs, which may be conjugated in as many as seven paradigms, illustrated in foregoing examples.

The neuter verbs are formed as imperfectives to denote qua ties and attributes of the type usually expressed by adjectives English. **Navajo does not have a word class corresponding to th adjectives of English**, except as the neuter verb forms function in similar capacity, and with exception of a few unconjugatable form such as yázhí, little.

The neuters are also formed as si-, ni- or yi- perfective form and the connotation is often that the state of being expressed by th verb has come about as the result of prior action. Thus, yiizį', stood up : sézį, I am standing. The following paradigms will e emplify the formation of both the imperfective and the perfectiv neuters:

IMPERFECTIVE AND PERFECTIVE NEUTER

1.	sézį	nisdaaz	łinishgai	łinishk'aii	dinishjool
2.	sínízį	nídaaz	łinígai	łiník'aii	diníjool
3.	sizį	nidaaz	łigai	łik'aii	dijool
3a.	jizį	.jídaaz	jilgai	jilk'aii	jidijool
3s.	——	——	halgai	——	hodijool
1.	siidzį	niidaaz	łiniigai	łiniik'aii	diniijool
2.	soozį	nohdaaz	łinohgai	łinohk'aii	dinohjo

sézį, I am standing; I am in a standing position (neuter perfective

nisdaaz, I am heavy. An imperfective neuter formed with the pr fix ni-. Cf. the same stem in náálдááz, it fell down (a heavy ma composed of plural objects, as a quantity of dirt or sand, a roof, e and the noun das, weight).

łinishgai, I am white. An imperfective neuter formed with the pr fix łi-, a prefix occuring with forms signifying color, taste (łika it is sweet), inflammability (łikon [cf. kǫ', fire], it is inflammab It also occurs with the verb łíshécháázh, I took unfair advanta of him; I cheated him.

łinishk’aii, I am fat.

dinishjool, I am round like a ball. The 3s. form, refering to space or area is used in the expression bił hodijool, he is a blockhead (i.e. everything is round like a ball with him).

An example of the ni-perfective neuter is ní’á, it extends horizontally outward (as a pole from a wall, a mountain range, etc. The yi-perfective neuter is illustrated in dził yíjiin, Black Mountain (the mountain that extends black, black line of mountain), and taah yí’á, it extends into the water; didíí’á, it extends into the fire.

THE PASSIVE VOICE

The passive voice forms in Navajo are of two types: a simple passive and an agentive passive. Both types are formed with the d- or l-classifier, (d if a zero-class verb, and l if an ł-class verb). The simple passives are constructed by prefixing the modal and adverbial elements of the verb base, with a d- or l-classifier, directly to the stem. The simple passives can connote action of the verb falling only on a 3rd person direct object, without reference to any agent of the action. Thus, tsé shaa yiní’ą́, he brought me the rock : tsé shaa yit’ą́, the rock was brought to me; yiyííyą́ą́’, he ate it : yidą́ą́’, it was eaten; ’aghaa’ hayííłjool, he carried the wool up out : ’aghaa’ haaljool, the wool was carried up out. But **not** shíídą́ą́’, I was eaten, shííltį́, I was brought, etc., with the action of the verb falling on a a direct object other than a simple 3rd person. When the object of the verb is other than the third person (3. or 3o.), the agentive passive must be used, indicating that an unspecified agent brought the action or state about.

The agentive passive is constructed with a prefix -’adi- (-’di-), as in shi’doodą́ą́’, I was eaten (shííyą́ą́’, he ate me); shi’dooltééł, I am being carried along (shoołtééł, he is carrying me along; yiltééł, he is being carried along, etc.

The foregoing sketch touches merely on a few aspects of the phonology, structure, and grammar of the Navajo language, illustrating the basic phonemes, structural patterns, etc. To describe the language fully would require many pages, and such a description would be outside the scope of the Yearbook. There should be enough information available in the section on language to provide basic knowledge of the position of Navajo as an Athabascan language, and to present a bird’s eye view of its morphology, knowledge which should be of value in connection with teaching English to Navajos, interpretation between Navajo and English, etc. More specifically, the language sketch should point to such facts as:

1. The Navajo verb is a composite construction based on a generalized, abstract stem-meaning, which is modified to produce

specific verbal meanings by prefixing to the stem a complex of adverbial, subject and object pronominal, modal, postpositional and other morphological elements, many of which customarily stand as free, independent word forms in English. In Navajo, these prefixed elements that compose the verb base undergo complex but regular morphophonemic assimilations as they come into juxtaposition with one another in the paradigms.

2. The grammatical categories of Navajo do not correspond to those of English. Forms from the imperfective and optative modes, and from the future tense, replace the imperative mode of English and other Indo-European languages; neuter verb forms replace the adjective as a word class of English, postpositions replace the prepositions, etc. Also, with subject, object, adverbs, etc. incorporated into the verb construction, each verb corresponds to a complete sentence in English.

Some of the problems of interpretation between English and Navajo should be implicit in the foregoing description of the Navajo language. Obviously, the interpreter is not usually able to parallel English lexicon in translation, but must choose terms that are roughly equivalent. In fact, he must translate **concepts,** not words, and to do so he must understand fully the material he is called upon to interpret. The quality of interpretation is not determined as much by whether or not "there is a word in Navajo" for a given idea or thing, as by the degree to which the interpreter understands the subject matter, and the extent to which he has a command of both languages.

(1) Applying the lexico-statistic method (glottochronology) developed by Morris Swadesh for the
dating of linguistic divergences, Dr. Harry Hoijer establishes the strong probability that the
break-up of the Athabascan languages began about 1300 years ago. His computations woul
indicate that the southward movement of the Pacific Coast gorups began almost at once and wa
essentially complete 1000 years ago. The Apachean movement southward appears to have begu
about 1000 years ago, and to have become complete about 600 years ago. Dr. Hoijer points t
the fact that both the glottochronological findings and the close kinship among the Apachea
languages indicates that the Apachean peoples migrated from the north as a unit and indepen
dently of the Pacific Coast group. (See **The Chronology of the Athabascan Languages**, by Harr
Hoijer, International Journal of American Linguistics, Vol. 22, No. 4, October, 1956.)

NAVAJO RELIGION

It is not an easy task to describe Navajo religious beliefs and practic
objectively and in a form that will be readily understandable to those reade
whose background and perspective are largely confined to the familiar
ligious systems of Europe and Asia. In fact, the very word **religion** is oft
popularly restricted in its application only to our own or to generally simi
systems of practice and belief, and often is not extended to include any a
all systems whereby man attempts to deal with the supernatural.

An integral part of many Navajo ceremonies, the sandpainting is a work of great skill and art.

Some observers of Navajo ceremonies, and some who read accounts Navajo religion tend to interpret it as a system or evaluate it qualitatively weighing it against what is familiar and what is therefore taken as **religion** an absolute sense. In so doing monotheism—the recognition and worship one Supreme Being—is a cardinal criterion. Other criteria include the pri ciple of personal immortality, the sharp dichotomization of good and ev the inclusion of a code of morals and ethical behavior based on divine ma date, the use of temples, churches or other places for regular worship ar services, and a formal, well organized doctrine and system of practices ar beliefs. If all or a major part of those elements are absent or loosely d fined in a religious system, it is not uncommonly placed outside the stri scope of meaning of the term **religion,** and viewed as a simple pagan pra tice, based upon "superstition."

In the sketch that follows, Navajo practices and beliefs, although n meeting popular criteria, are treated as constituting a religious system.

Over the course of the past 75 years a number of highly capable soci scientists have studied the religion of the Navajos, and from these inquiri there has grown up a large body of literature, both descriptive and inte pretive in nature, which has given us a degree of insight into the spiritu side of Navajo culture that earlier observers lacked.[1]

Prior to the studies carried out by Dr. Washington Matthews, an arn physician stationed at Fort Wingate in the 1880's, little was known abo Navajo religious practices and beliefs. The extent of this ignorance in th mid-nineteenth century is amply reflected in the writings of Dr. Jonath Letterman, Post Surgeon at Fort Defiance in the 1850's, whose "Sketch the Navajo Tribe of Indians, Territory of New Mexico," was published Miscellaneous Documents No. 113 of the Annual Report of the Board Regents of the Smithsonian Institution in 1855, wherein Dr. Letterman stat that "Of their religion little or nothing is known as, indeed, all inquiries te to show they have none; and even have not, we are informed, any word express the idea of Supreme Being. We have not been able to learn th any perseverances of a religious character exist among them; and the gener impression of those who have had means of knowing them is that, in th respect, they are steeped in the deepest degradation.*** It is impossible learn anything from the people themselves, as they have no traditions. volume of no mean size might be written, were all the stories of interprete taken for truth; but it would be found a mass of contradictions, and of value whatever."

The superficial observations and inquiries of Dr. Letterman failed reveal the fact that religious rites and practices were an essential eleme

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(1) Notable among scientists who have studied and written about Navajo religion are Dr. Washing Matthews, The Franciscan Fathers of St. Michaels, Ariz (esp. Fr. Berard Haile), Clyde Kluckh W. W. Hill, Gladys A. Reichard, Leland C. Wyman, Dorothea Leighton, Franc J. Newcomb, Mary Wheelwright, and David F. Aberle (Peyotism).

nearly every aspect of traditional Navajo culture, pervading it to such a egree that, paradoxical as it may seem on the basis of the writer's criteria, ere was apparently no **religion** at all. It remained for Washington Mat- ews a few years later to delve into the complex labyrinth of Navajo cere- onial, practice and belief to lay the foundation for the work that followed. cientifically objective and unprejudiced in his approach, Dr. Matthews ained an understanding of the Navajo that was shared by few European- mericans of his time.

Although for the purpose of the Navajo Yearbook we shall describe and terpret Navajo religion primarily as an element of Navajo culture, we shall, the same time, attempt to develop perspective and better understanding, pecially in the matter of what constitutes "superstition" or "primitiveness," y freely calling attention to analogous practices and beliefs which, his- rically, we share with the Navajo. Likewise, since many who read this sec- on may not be students of anthropology or comparative religion, we will uch upon elements herein that are not properly aspects of Navajo religion ut which form part of the body of practices and beliefs which are associated th religion from the European and Asiatic viewpoint.

1. Navajo Cosmology and Cosmogony.

The origin myth of the Navajo traces the evolution of life through four me say eleven) underworlds to emerge on the fifth and present world ere it developed its actual form. The five worlds seem to have existed m the beginning consisting of superimposed hemispheres supported by the **yiyahniiziinii** or dieties who "stand under the sky to support it." Above the th world some say there are one or two additional worlds, one the abode spirits and the other a void where all things blend into one with the smos.

The Navajo concept is not unlike the Judaic and early Christian concept ich described the earth as a land area floating like an island in an im- nse ocean overspread by the solid dome of the heavens which fit like a at lid with its edges on the horizon, resting on supports placed in the ter. The sun entered the terrestrial hemisphere in the morning and de- rted at night through doors in the east and west. Above the heavens was other ocean similarly domed and supported overhead. The sun, moon and nets were hung from the interior surface of the celestial dome and were ved by angels who also opened windows to let the water from above fall rain on the earth below. After acceptance of the geocentric Ptolemaic ory of the universe in the second century A. D., we developed the concept the earth as a ball located in the center of ten superimposed spheres, each rying one or more of the heavenly bodies, and each turned by angels. en the void beyond the tenth sphere—the Empyraeum—is remindful of the vajo concept of the great void beyond the sky world. And we might add that, for 1400 years, until the times of Galileo we maintained a concept c the universe not unlike that described by Dante.

According to Navajo legend, in the first, or Black world, there were fou clouds, of which one embodied the essence or prototype of female and ar other the essence or prototype of male. Where two of these clouds met, a a point in the east, First Man was formed, and with him an ear of white cor which became the perfect prototype of all subsequent ears of white corn.

On the opposite side of the first world the two remaining clouds joine to produce First Woman along with an ear of yellow corn, the perfect proto type of all subsequent ears of yellow corn. Thus First Man stood at the Ea and First Woman at the West in the first world.

Atse Hastiin and Atse Asdzan, or First Man and First Woman, wer perhaps the perfect prototypes serving as models for man, in whose creatio they were predestined to be instrumental, but they were not themselves me or human beings. Mankind did not emerge as such in the underworld, bu only his mould or prototype, and the will that he would come to be. H development and the development of all other elements, animate and i animate, of the Fifth World were predestined and planned from the begi ning and each of the events of the underworlds was but an evolutionary ste toward the realization of man and his present world.

First Man and First Woman became aware of each other's existenc and he went to live together with her.

Also in the first world there were Coyote Beings, one of whom possesse knowledge of what lay beneath the water and above the sky, with who First Man and First Woman laid plans for the future. There were many othe animate forms identified as ants, spiders, bats, etc. They too were perha prototypical forms of what were predestined to become those creatur ultimately.

The first world became crowded and the prototypical Beings move upward into the second world led by First Man, First Woman and the tw Coyote Beings. They found the Second World already peopled with vario Bird Beings with whom they fought, and later they progressed upward in the Third World.

In the Third World there were prototypical Male and Female rivers, th former flowing into the latter and symbolizing generation. There were, to prototypes of what were predestined to be the Sacred Mountains of th Navajo world. In the Third World there were various Holy People and oth animate Beings, or their prototypical forms. Here the seeds of agricultur crops were magically created. There was still no sun, no moon or stars, ar night and day were differentiated only by a black and a white cloud whi alternately rose to blanket the world. Asdza Nadleeh, The Changing Woma or her prototype, was present in the Third World, and as one of her manife ations she represents fertility and life—its regeneration and recession with he seasons as vegetation greens and dies to become green again.

Many adventures took place in the Third World, including the temporary nd disastrous separation of the sexes which led to the birth of monsters. n the the course of reunion of the sexes, Coyote stole the children of the Vater Monster who in turn produced a great flood that drove the protoypical Beings upward into the Fourth World.

The Fourth World was not satisfactory so First Man led the Beings gain upward to the Fifth and present world where again were found pre-xistent Beings. From these, by magic, the Fifth World was won. The protoypes of mountains, rivers and other inanimate objects as well as those of nimate Beings were brought up from the underworld by First Man, and here hey took their final form as mountains, rivers, wolves, badgers, pumas, etc.

A fragmentary account of the escape from the flood, and the Emergnce, as told by a Navajo Medicine Man, is reproduced herewith.[2]

"I am a medicine man. I am going to tell the story I got long ago from man called Man With a Moustache, who was my grandfather. It was venty-seven years ago that he died of old age, at the age of a hundred and vo years. I shall now begin to tell you his story, the one which he himself old to me.

It is said that, long ago in the Underworld, there existed the mountains nown as Sierra Blanca Peak, Mount Taylor, San Francisco Peak, La Plata, uerfano and Gobernador Knob. And people were in existence, living there. was then that Coyote did something. Somewhere a river was flowing, it is id. The offspring of Grabs Things in Deep Water (a Water Monster) was oating about when Coyote approached it and tried to get it. He lassoed it th a sunbeam and pulled it ashore. For that reason things began to go dly for The People. All the birds that fly flocked together for no aparent reason. Something black kept rising up and receding. Cold came om the south, the west and the north, it is said. The People wondered what was. They looked, and found it to be water.

It was then that First Man and First Woman picked up Sierra Blanca ak. They picked up Mount Taylor, San Francisco Peak, La Plata Mountain, uerfano, and Gobernador Knob. They gathered up all the seeds of plants. a certain place there was a mountain, and all the creatures climbed to its mmit. Then the mountain began to absorb the water and dissolve itself o mud with them on it. At this point they became desperate, and planted tree to ascend by—a fir tree, they say—but it only grew to the present ght of such trees. They were in desperation, and while they were in the etop two people (men) of some kind arrived there nearby.

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[2] From "Selections from Navajo History," Young and Morgan, published 1954 by the Bureau of Indian Affairs—pp. 11-13.

"Who can they be, Some one go and tell them what the situation is, someone said.

At that point they were informed and they came over. "Could it b that you might do something?" they were asked.

"That's the way to talk," they said, and room was made for them. On of them started off to one side (out of sight), and his companion was askec "Who is that?"

"He is my maternal uncle. He is the Sun," he replied.

As soon as he felt sure that they had named him, he came back ir When that one came back in, the other one started away. Then this on was asked, "Who is that?"

"He is the Moon. He is my maternal uncle," he said.

That is why The People do not speak each others' names in each other presence. Here is where the precedent was established.

"This is about the only way," he said, as he stuck his big reed flute int the ground.

His companion had a pinetree flute. Before long there appeared white speck where the flute extended against the sky. Then they got into i got into it, got into it. The Turkey was last. His tail stuck into the foam, s the white tip is the foam, they say.

The People climbed up to one of the sky-ledges, and there all thos who could dig tried in vain.

It's next to impossible, my grandchildren. There are layers of rock, said Gopher. (That is why he doesn't dig straight down; instead he merel digs a little way down in the top layer of soil, and thereafter makes his ho horizontally.)

Then the Locust went over, and he got through. He climbed up out c La Plata Mountain at the place called "Where They Emerged." They foun a lake of water standing there, it is said, impounded by Gray Mountain an Tobacco Mountain. There was a great expanse of water, in the midst c which Locust appeared as a black speck. There was something called Thos With A White Spot On The Nose (a monster). These could be seen floatin leisurely in the four directions. They appeared as black marks. The one c the south was blue; the one on the west was yellow; the one on the north w white, and the one on the east was black. Each of them was holding up obsidian knife, which was their weapon. It was then the black thing from th east rushed at him. "Don't Blink! Don't Blink! Look Out!" said the Wind him, said the Child of the Wind to him, whispering into his ear. That w one of our Holy Ones, who used to tell us things.

At this point the Monster made a pass at him with the weapon. Th the one from the south rushed at him and did the same. Then they initiat im from the four directions (as the Ye'ii initiate little children so the latter vill no go blind).

"There are many people from down below. We were living in plenty in he Underworld, but the water was rising on us, and that is why we came up. t was said that we are to live here, The People say. It is thus that it has come bout. So all of this water should be allowed to flow away," said the Locust.

"No," he was told.

"No," he said it is said. "Then I also refuse (to go back down into the nderworld)," said Locust.

This (dialogue) took place four times. Then he (Locust) pulled out some-hing fletched with tail feathers. There was a passage through his chest, hrough which to pass these feathered objects. He ran the two objects across is mouth, and then through the passage in his chest, sticking one in from one ide and one in from the other, and then crossing his arms to pull them out n opposite directions.

"All right, let's see if you can do what I did. If you can do what I did, hen we will let the water stand," said Locust.

(He used to blink his eyes until the Wind told him not to do so, and hat is why Locust does not blink even today.)

Then the black things said "No," that they could not do what he had one. So it was that he won the water.

Mountain Sheep was notified, and with a sheep's horn he dug the way ut for the water. He dug through Tobacco Mountain (Grand Canyon Moun-ain), and the instrument with which he dug still stands over there where the ountains run together. "That's the Sheep's Horn," my grandfather said.

Then Badger came and made the hole from the Underworld larger, and e people emerged through there. Badger really got himself covered with ud, and that is how his belly became black.

But the water from the Underworld was still rising behind them, and resently from the hole there stuck the horn of Grabs Things In Deep Water.

"What's the matter. Why are we being treated this way?" The People id. "While we were living down there in the Underworld that one called oyote really got into a lot of trouble and mischief. Could it be because he s the baby of Grabs Things In Deep Water?" they said. They searched m, and there it lay in his armpit. It fell out, and when this happened ey knew.

They suggested throwing it back, but Coyote protested. "No, what will have to live by? I did it so we would have this (as a power) to live by," oyote said.

There between the horns of Grabs Things In Deep Water there w swirling black foam. A kind of Hard Goods called "perfect" was plac between the horns. In exchange for that the lapping water receded, a some of the foam was gathered by The People. "If this one is thrown ba into the water, then what will we live by?" they said. Grabs Things In De Water, the one who had stuck his head up, went back down, and his ba came up above, to become the thunder and lightning. That's what we li with when it rains.

This earth was just a soft mass, it is said. The wind was notified, a for four days it blew. But the earth hardened and packed only slightly. some foxtail grass was planted. Those of the squirrel family, such as the F Squirrel, brought the seeds of plants and nuts up from below, as food. tree was planted, and it held firm by the roots.

First Man took the mountains he had picked up, a song was heard, a he put Sierra Blanca Peak in its proper location, over in the east. "Let t mountain be placed far away; let it lie far away, so our thoughts will be long he said. He set Sierra Blanca Peak in its position, and it was of White She Then Mount Taylor was set in its position, and it was of Turquoise. The two mountains were put in their positions, and both Hashch'e'elti'i and Has ch'eoghaan (two supernatural beings or divinities) took their place in the Then San Francisco Peak was set in position. It was placed in the west, a was of Abalone. Hashch'e'elti'i and Hashch'eoghaan took their places in La Plata Mountain was set up in the north. It was adorned with Jet, a Hashch'e'elti'i and Hashch'eoghaan took their place in it.

So in the form of these Sacred Mountains was our Mother made for u Sierra Blanca Peak is our Mother. Among the white people the missionari speak like that. This mountain called Sierra Blanca Peak is our missiona (i. e. our religion). In accordance with it we live. In the midst of these fo Sacred Mountains that were placed, there we live. With that, we who a The People are the heart of the world. These Sacred Mountains that we placed for us are the boundaries of our domain. They are our boundaries.

I am a medicine man, so I have some of the soil from these Sacre Mountains. These were established with White Shell, Sheep, Domesticate Animals, Maidens and Youths. In accordance with that do we live. Those The People who possess livestock possess it by virtue of the power derive from the soil of the Sacred Mountains. And we who are medicine men, th is our way. We have the Mountain Prayers and the Mountain Songs.

It is said that Black Mountain lies in a clockwise position, with the or known as Navajo Mountain as its head, and Marsh Pass as its neck. The re rock running down from there is its comb (as the comb of a chicken). Baluk Mesa is the tail of Black Mountain, it is said, and Comb Ridge is its wing. I other wing is the ridge that extends down into White Reeds Up Out. M randfather said that they run out in opposite directions from each other. oppermine Mesa is an ear-bob, and on the other side, over toward Tree overed Point, which is also called Metal Is Dug Out, is the other ear-bob. o it lies in a clockwise (i.e. sunwise) position.

Over there on the other (eastern) side of Male Mountain, the one called hite Fir Point (Chushgai Mountain), also lies in a clockwise position. The ne called Chushgai is its head, and Beautiful Mountain is its tail. It is from e summits of these Sacred Mountains that the Sky Supporters stand. El apitan is the center of the world, and on it too stands a Sky Supporter. rom its summit he holds up the sky, like an umbrella.

Shiprock stands as the symbol of Turns Into Rock Monster. Bennett Peak nd Rock That Extends Into The Sky (near Mt. Toylar) are the last of the rocks at stand in a line in the east. That is clear, as my grandfathe told it. That my story, my elders. That is the story of my grandfather and of my father. y father was once called Wide Hat, and my paternal uncle was called an Wounded By An Arrow. It was their story."

Into the Sacred Mountains were placed the prototypes of all things ecessary to man, and these mountains also became the abode of certain eities or Holy People. Life may wax or decline in the space between the acred Mountains, but the perfect prototypes of all things reside in the ountains from whence life springs always anew in the land beneath in the rm of imperfect copies of these prototypical perfect forms. It was thus edestined from the beginning, and the Sacred Mountains were placed in e Fifth World as the boundaries of the area the Navajo were destined to habit.

In accordance with the cosmic plan, the sun, the moon and the stars ere created, stationed in the sky, and assigned their seasonal trails, and th them night and day and the seasons. And through the magic of the rs of corn from (or **with**) which First Man and First Woman were formed in e First World, man and woman were created from images into which a tle breeze entered to give them life.

The origin myth is long and detailed, and as told by various Medicine en it varies somewhat. The above sketch omits all but salient features of e story.[3]

2. The Navajo Deities.

In the Navajo pantheon there is no clearly distinguished deity who can described as a Supreme Being, a fact which explains Jonathon Letterman's lure to find a word denoting that concept in the Navajo language. The vajo pantheon is composed of many supernatural entities, among whom

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See "Emergence Myth," by Fr. Berard Haile and Mary C. Wheelwright, Mus. Nav. Ceremonial Art, Navajo Religion Ser., Vol. 3 (1949); "Navajo Creation Myth," by Hasteen Klah and Mary C. Wheelwright, Nav. Religion Series, Vol. I. (1942); "Navajo Religion," Gladys A. Reichard, (1950); "Origin Myths of the Navajo Indians," by Aileen O'Bryan, B.A.E. Bul. 163 (1956).

some figures, such as First Man, First Woman, Changing Woman, the Be chidi and the Sun occupy positions of preeminence. Others occupy l dominant or minor positions without, however, the clearcut divine hierarc which characterized the Greek and Roman pantheons.

Reichard[4] classifies the members of the Navajo Pantheon into groups the basis of certain characteristics, functions and other distinguishing criter She describes as **Persuadable Deities** those Divine Beings whose motives predominantly good. These include figures who played an important role the creation and in the proper development of the universe for the ultima benefit of Man; they are deities who are amenable to invocation by man assist him in counteracting malevolence and evil or in assuring well bei through the medium of ceremonials. Dr. Reichard includes Sun, Changi Woman, most of the divinities identified as Hashch'eeh, and the Racing Go as primarily good and persuadable deities, accessible and willing to their power in the interest of Man's well-being. She characterizes First M First Woman, Salt Woman and the Begochidi as borderline divinities, som times motivated for good, sometimes maleficent; usually difficult of acces bility by Man, and less easily persuadable in his interest. In fact, First M and First Woman control witchcraft and, through sorcery they are sometim responsible for disease and misery.

A second group includes the deities who are primarily motivated malevolence. These possess power for good but they are persuadable o with great difficulty and are **Undependable.** Dr. Reichard places First M and First Woman in this group as well as in the **Persuadable** class.

A third class of supernaturals comprises the **Helpers** of both gods a men. They bridge the gap between the Holy People and the Earth Peop and include such personifications as Big Fly, Bat, Darkness, the Wind, Child of the Wind, Sunbeam and others. Their function is to instruct, wa answer questions and foretell future events. One type of Helper is usua found in the role of a messenger of the gods, or as a Being who reconnoite and provides necessary information to the divinities. Many of this type Helper are birds or animals, including Dove, Turkey, Beaver, Owl and Badg

As Reichard points out, there is no sharp line of distinction between Holy People or Supernaturals and the Earth People or ordinary men. The t classes shade and blend one into the other, and the legends recount instanc wherein children are born of unions between the two, adventures involvi direct association of mortals with the divinities, and instances in which figur born as ordinary men become divine or semi-divine. Even the casual stude of the mythology of the Greek, Roman, Egyptian, Sumerian, Indic, Germa and other peoples will discern the similarities and analogies that obtain b

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(4) Reichard, Gladys A. "Navajo Religion," Vol. I, Chapt. 5 (Publ. 1950 by Pantheon Books, Inc.)

veen those people and the Navajo in the matter of their conceptual rela-
onship between man and the gods, in the motivations and personalities of
dividual deities, in the role of the semi-divine Culture Hero, and in the very
ieme of some common myths.

Important in Navajo legend are the Twin Culture Heroes who obtained
eapons from their father the Sun to overcome the major evils that made the
orld unfit for human habitation. The Twins are commonly referred to as
layenezghani (the Slayer of Enemy Gods or Evils) and To Ba Jishchini
athered By Water) and they figure prominently in the legends of many
hants. They are **Intermediaries** between the gods and Man, suffering all the
ailures and tribulations of mortals in their efforts to accomplish beneficial
urposes, but sharing the characteristics of both Holy Beings and Earth
eople and maintaining strong ties among both groups.

The monsters of Navajo legend are classified by Reichard as **Unper-
uadable Deities** whose primary motivation is evil and whose power man
annot invoke for good. They are commonly known as Ye'ii,* and were con-
uered by the Twins. However, they must be ceremonially propitiated by
neans of exorcism to preclude the danger of their malevolent power affect-
ng man. The **Unpersuadable Deities** stand at the opposite pole from the
ersuadable Deities, both classes shading into the **Undependable** Deities as
n intermediate class.

In addition to the specific divine categories described above, certain
ypes of dangers are treated in the legends in personalized or deified form.
eichard illustrates this class of menace to man with such mythological phe-
omena as the Sliding Sands, the Cutting Reeds, and the Crushing Rocks
hich the Twins encountered and conquered. Again, there are gradients of
ood and evil with an intermediate class which the Twins encountered but
ecided to spare for man's ultimate benefit. These include Old Age, Cold,
overty, Hunger, Sheep, Lice, Meat-Craving, Desire and Want, as listed by
eichard.

Reichard emphasizes the great difficulty attendant upon classifying in-
ividual gods of the Navajo pantheon. They may have many duplicates and
any names distinguishing them on the basis of one or another facet of
eir personality—one or another manifestation of their power or motivation.
eichard expresses the belief that Navajo religion is predominantly a Sun
ult, in which the Sun, functioning as a central deity, correlates the universe,
monistic concept in which the ostensibly independent parts of the universe
end finally into oneness. Thus, if it were not for the sharp Male-Female
chotomy that so generally pervades Navajo religion and culture, it might
ell be the Sun who manifests himself variously as Changing Woman, First
oman, First Man, Begochidi, one or another of the Hashch'eeh, or in other

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om yee', terror, fear, awe, dread. Thus Fearful or Dreadful Ones. Cf. yee' bii' niseya, I placed
yself in dire jeopardy (lit. I went into terror and returned).

guises distinguished by different names in different situations—each su name actually only serving to distinguish a variant manifestation of the sar entity, as though each facet of a cut diamond were distinguished from neighbor by an individual name based upon attributes not totally shared adjoining facets. Yet, all the multiple planes would be viewed as manifest tions of the diamond as the fundamental entity. In the case of Sun, sor facets are motivated for good, some for evil and some for both as far man is concerned. In fact, if one pursues this (binary) monistic viewpoint its logical end, Man himself becomes but a manifestation of Sun—one of t facets, with an infinite number of duplicates.

These are concepts that may be drawn from study and analysis Navajo legend and ceremonial; they are not embodied in a creed or forma ized doctrine by the Navajo themselves, nor do they necessarily represent th manner in which individual Navajo, whether laymen or shamans, conceive the pantheon and the universe. This is a construction deduced from th legends, and one which conceivably could become a creed and basic doctrir if the Navajo religion were ever to be formalized into the familiar Asiati European pattern.

Whether the members of the Navajo pantheon are taken as independe Beings or as facets of a single Being, the fact is amply apparent that goc and men share many characteristics in common. Like Ishtar of the Sumeriar and a host of other deities of the ancient world, the Navajo gods embod both good and evil; they are variously depicted as chaste and lasciviou faithful and treacherous, kind and cruel, predominantly beneficent, pre dominantly maleficent, or intermediately good and bad just as man migh logically depict himself. There is no clearcut divine dichotomy of good an evil; no deities that wholly personify good and no demons who have an e clusive claim to evil except to the extent that the **Persuadable Deities** and th **Monsters** may be representative of these extremes. There are no Navaj cults and no temples to the gods in the Asiatic-European sense and, althouc Man may become the victim of divine malevolence he does not consider hin self to be subservient to the deities in the Asiatic-European manner.

When Man (the Navajo) was created, he was placed in a world bounde by Sacred Mountains, wherein he was taught by the Holy People how t gain his livelihood and control his environment for good or evil through th magical medium of ceremonials in which certain of the Holy People could b involved to assist with special supernatural powers.

As there is no clearly defined divine hierarchy in the pantheon, and r temples or cults associated with religious practice, neither is there a priest administrative hierarchy on the basis of which the religion is organized fo practical purposes. There is a group known as "Singers," or more common in English as "Medicine Men" who individually acquire knowledge of one more of the complex chantways or ceremonials, by dint of long apprenticeship, and who thereafter become practitioners corresponding roughly to the priests of other religions.

3. Navajo Religious Dogma.

The teachings and beliefs of Navajo religion are set forth in the many egends that pertain to the major ceremonies. The legends are authoritarian and as our theologians look to the Bible as the source of all knowledge, so does the Navajo believe that answers to all fundamental philosophical questions may be found in the legends.[5] These contain the origin story, as we have pointed out, tracing man's evolution through the underworld, his movement toward present form and being by the acquisition of knowledge, the history of the original clans, the exploits of the Culture Heroes, the background and origin of the ceremonies, explanations of taboos, and many other subjects.

Predestination—or progression toward the realization of a preconceived plan—is evidenced throughout the Navajo origin story, with the perfect prototypes of what is **destined to be** already existing in the underworld. The major goal of the plan as it was elaborated by First Man and First Woman was Man, and the various steps in carrying out the plan were steps in preparation for his coming. Man is central and paramount in the Navajo world, with the sun, moon, stars, animals, plants, ceremonial knowledge, and all the rest of nature created for his use and benefit.

Man's primary problem is to control his environment for his own benefit by observing taboos and by avoiding or overcoming disease, misfortune, distress and evil through proper exercise of ceremonial magic. He must maintain himself in balance with nature, reestablish his balance once lost, or perish.

Navajo religion is a system of imitative and sympathetic magic aimed tually at fulfillment of the requirements of life and living; it is not concerned with preparation for death and afterlife. The dead are feared because they may contaminate the living with their evil, but the fact of dying is not looked upon with horror. After death man loses his identity and merely becomes one with the universe, a condition in which he is neither purnished nor rewarded. Religion helps him in life but is not needed after death.

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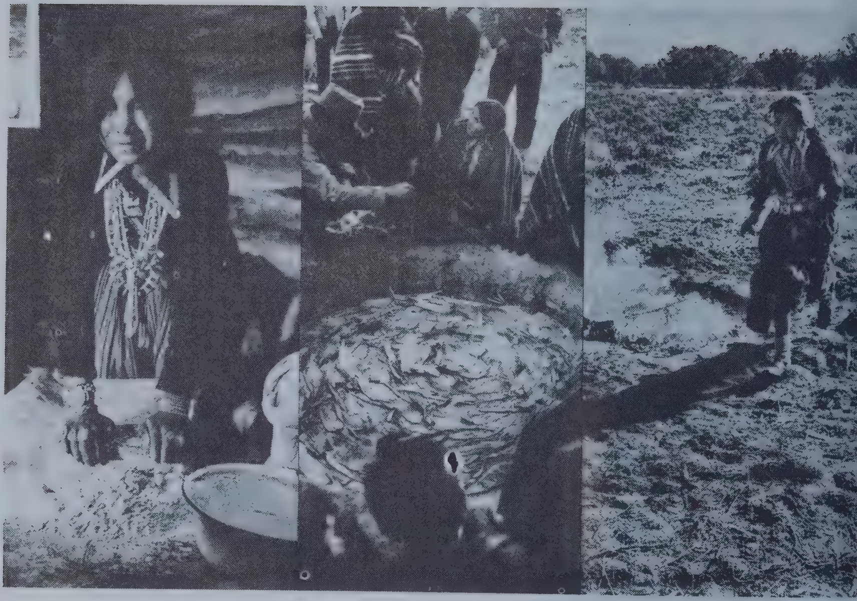
[5] The long period of time that has elapsed since the Navajo acquired livestock, and the position of pre-eminence accorded to the sheep, are reflected in the fact that the creation of sheep and other domesticated animals is described in the legends as an answer to a fundamental question of the origin of livestock. "After the mountains were placed in this world and the various plants were created, life was given to that called sheep. In the east, chamise was placed for the sheep, and they were freed to go to it. Mormon tea was placed for them in the south, and they were freed to go to it. And in the north, black mountain mahogany was placed and they were freed to go to it. Thus it was that the sheep were set free to go in the four directions. They ate and then they shook themselves, whereupon black clouds came together in a mass overhead, and on the same day hail fell. And on the same day the plants that had been placed with their mates on the world began to multiply and grow. After the plants began to grow, the other kinds of livestock were created. Different kinds of horses, different kinds of sheep, mules and burros all came into being. And creation was finished. We were told that, in the time to come, we would live on these things.****" (From Young and Morgan, Selections from Navajo History, P. 62.)



At puberty a girl is ushered into society by a special ceremony. Adorned with jewelry she perform certain ceremonial acts, including the grinding of corn meal on a stone metate. This task must be don each day for 3 days, although she is usually assisted by other women, either family members o relatives.

The corn meal, ground in the 3 preceding days, is made into a batter and poured into the heate pit at sunset of the last day. It is sweetened with sugar, honey or syrup nowadays, and the bottom and sides of the pit are lined with moistened corn husks turned rough-side up to keep the cake clea and prevent sticking. After the batter is poured the initiate tosses some of the ground meal from basket she holds to each direction, as an offering, accompanied by a silent prayer. Others may follo suit to make a similar offering from her basket, praying out loud as they throw the meal. The cake i finally covered with husks, moist and dry dirt, ashes and fire to bake. The cake is uncovered after th last dawn run on the morning of the 4th day, and each medicine man who parcipated during the las night receives a piece, and the remainder is distributed to other participants, family members neighbors, etc.

Each day at noon the initiate takes a run in addition to the runs she takes on each of four morning at dawn. Her first run takes place on the morning following her first noon run, and the last dawn ru is made on the morning following the 4th night ceremonial during which various medicine men "sing" over her. Although usually accompanied on her runs by others, she is here running alone past th fire-pit, dug on the morning of the 3rd day, in which her puberty cake will be baked on the last nigh of the ceremony. (Photos by LIFE Photographer Leonard McCombe, (C) 1948, TIME, Inc., used b special permission of LIFE MAGAZINE.)

Navajo religion finds its expresion in a large number of distinct ceremonies, 58 or more, each with its own body of legend tracing its origin and outlining the prescribed procedure detail by detail. Reichard aptly describes the ceremony as **a complicated charm,** involving ritualistic purification by sweat bath and emetic, the fashioning of prayer sticks and other ceremonial objects, the making of complex sandpaintings, songs, chants, prayers and the like. Each minute detail must be rigidly adhered to—any departure from the prescribed procedure, whether it be improper fashioning of the prayer sticks, omission or faulty order in the chants and prayers, or neglect to observe taboos connected with a particular ceremony, may cause failure in achieving the results for which the ceremony is carried out, and may endanger the very lives of the participants.

There are minor and major ceremonies; some lasting only one night or less, some lasting nine nights or more. Some are primarily prophylactic in nature, serving to ward off evil or attract goodness; some emphasize exorcism of evil and restoration of the person or persons for whose benefit they are held. In view of these facts, Reichard classifies the ceremonies into two major categories; Blessing Way and Evil Way;[6] Kluckhohn and Wyman divide the ceremonies into six major groups, based on elements of ritual; Blessing Way, Holy Way, Life Way, Evil Way, and the War and Game ceremonies.[7] The six groupings are further subdivided into variant branches and forms. Under the classification Blessing Way, Reichard lists such ceremonials as the House Blessing, Girls Adolescence, Wedding, Rain, Fertility and Increase, Life, War, Night Chant, Beauty Chant, Water Chant, Wind Chant, Mountain Chant, etc. Under Evil Way she places such ceremonials as those concerned with Hunting, Trade, Gambling, Excess, War, the Evil forms of the Male and Female Shooting Chants, the Evil forms of the Mountain Chant, etc.

Kluckhohn and Wyman[8] outline the uses to which the various chants or ceremonies are put. Thus the Hail Way is a specific for persons injured by water, for frozen feet or parts, and for muscle soreness, tiredness or lameness. The Male Branch of the Mountain Chant is user for persons suffering from constipation, anuria, gall bladder trouble, mental sickness, etc.

As a generalization, the first portion of a major ceremonial is devoted to purification, the fashioning of the prayer sticks and other preparatory activities. When completed, the prayer sticks are placed at a nearby location where the deities concerned will be sure to see them. If all requirements have been adequately met, the deities cannot refuse the invitation or request thus proffered, and they must respond to assist in carrying out the ceremony. The Medicine Man who conducts the ceremony becomes himself identified

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6) Reichard, Gladys A., "Navajo Religion," Vol. I, pp 322-323.

7) Wyman, Leland C. and Kluckhohn, Clyde,. "Navajo Classification of their Song Ceremonials," Mem. of the Amer. Anthrop. Assoc., No. 50.

8) Op. Cit. (7).

with the deities and thus gains the power to control for good or evil. Mos generally he is concerned with controlling for good in the interest of a patien who requires prophylactic attraction of good or exorcism of evil. Many ceremonies are customarily restricted to the winter season.

Disease, misfortune, distress and other evils are caused by contact wit a corpse, by failure to observe taboos and ceremonial regulations, by anima spirits, by natural elements or phenomena such as whirlwinds, lightning, water or worst of all by witchcraft. As we pointed out above, each ceremonial i especially adapted to a particular set of uses, to combat or thwart one o another disease or misfortune.

The specific ceremony required is determined by divination,[9] itself ceremony, and one carried out by a process of Hand Trembling, Star Gazin or Listening. Different diviners use different methods, of which the Han Trembling and Gazing are the most common. In any case, the practitione goes into a trance, in which state he divines the cause of disease or distres and designates the ceremonial remedy required. Divining may also be use to locate lost objects and persons, and for purposes of determining futur events.

All Navajo ceremonies are conducted for a purpose whether it be fo attracting good or for the exorcism of evil, and the purpose is basicall one of magically controlling the environment for man's benefit. Althoug **our** non-Navajo rituals differ from the Navajo in form and practice, as **ou** theories of disease differ from those of the Navajo, we too are concerne with the ritualistic invocation of supernatural power to aid us in the attainment of immortality, to ward off evil or even cure disease, as well as fo other purposes. Nor are rites of exorcism foreign to us; members of ou culture commonly used them in the past and still rely opon them today in some parts of Christendom.

The legends, prayers, poems and songs that make up the immense body of Navajo Sacred Literature exhibit great beauty and imagination and are in no wise less worthy of literary rank than the Homeric poems, Hymns of the Rig-Veda and many other heritages from our own past. There are stories of adventure and magic, hero-myths and travels. There is humor and suspense, in tales told with mimicry and great beauty in the Navajo language. The poems form parts of chants; beautiful in content, and chanted in a perculiar rhythm with vowel lengths and tones of the words altered in a characteristic manner.

The legends are too long for inclusion here, and the poetry retains only its "shell" in translation, since much of its beauty lies in its delivery in the

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(9) V. "Gregario The Hand-Trembler," by Alexander and Dorothea Leighton, Papers of the Peabody Mus. of Amer. Archaeol. and Ethnol., Harvard University, Vol. XL—No. I (1949).

language of its composition, by a Medicine Man. In translation, one of the Songs of Talking God, goes as follows:

Now I walk with Talking God.
It is with his feet I go;
It is with his legs I go;
It is with his body I go;
It is with his mind I go;
It is with his voice I go;
I go with twelve feathers of the white eagle.
With goodness and beauty before me I go;
With goodness and beauty behind me I go;
With goodness and beauty above me I go;
With goodness and beauty below me I go;
With goodness and beauty in all things around me I go;
With goodness and beauty I follow immortality.
Thus being I, I go.

4. Navajo Witchcraft.[10]

Most ceremonials are conducted to attract good or to ward off evil, because Good is a greater value in most men's eyes than Evil. However, both the deities and men are composite, containing both good and evil thoughts and motivations. Therefore, ceremonies and rituals may be performed or misperformed to attract evil to a victim, just as, not many years ago in Europe, it was believed that the Mass could be performed backwards —the so-called Black Mass—to attract evil. Our own ancestors believed firmly in the reality of witchcraft until very recent times, a fact to which the multitude of men and women who lost their lives in the five hundred year period between the 12th and 17th centuries, burned or hanged for witch craft and sorcery, could attest.

The were-wolf is still not dead in many modern countries of Europe and in other parts of the world, and there are still many non-Navajos who firmly believe in lycanthropy—the ability to turn into a wolf. That belief is shared by the Navajo who call such persons yee naaldlooshii.

According to Navajo legend witchery began in the underworld, having been originated by First Man and First Woman themselves. To become a witch it is said that a person must commit incest, murder a close relative, or commit some other heinous crime by way of initiation and to obtain the necessary power for evil. Once gained, the power may be used to gain wealth, wreak vengeance on an enemy, or for any of the purposes we commonly listed in our own culture, historically.

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(10) Kluckholn, Clyde, "Navajo Witchcraft," Vol. XXII—No. 2., Papers of the Peabody Museum of Amer. Arch. and Ethnol., Harvard Univ. (1944); Sprenger J. & Institutoris, H. "Malleus Maleficarum (The Witches' Hammer) Rodker (1928); Murray, M. "The Witch Cult in Western Europe," Clarendon Press (1921).

In our witchcraft stories we conceived of the witches periodically attending a gathering of their kind at a Witches' Sabbat[11]—sometimes calle a Witches' Sabbath. So also do Navajo witches hold periodic meetings, a which they are said to defile the Sacred (by spitting on or dirtying the sand paintings and distorting ceremonial prayers) just as their European brother conducted a Black Mass and otherwise defiled what is Holy. Some drugs and plants are associated with witchcraft by the Navajo, just as aconite, belladonna, cinquefoil and others were reportedly[12] used by European witches t produce frenzy. And again, as in the instance of their Old World cousins, th Witches' Sabbat is conducted by a leader.

Evil can also be worked by sorcerers who concentrate their evil thought upon a victim, shoot evil with their eyes, or make an image of the intended victim and pierce it with a thorn. Nail parings, clothing or other object closely associated with an intended victim can be placed in a grave or otherwise used to work evil upon him, just as sorcerers in our society used simila objects to accomplish their evil purposes—and still use them according t occasional newspaper accounts.

Although Navajo society has never made the concerted effort to extirpate witchcraft that was made in Medieval Europe and even in our own Salem, Massachusetts, murders of persons for witchery have occurred, and occur to the present day. Traditionally and actually Navajo belief in the ability and inclination of some persons to attract and direct evil to cause illness, death and other misfortunes is a very real belief, and the degree to which it parallels our own beliefs of a few decades past is remarkable. As in our society, Navajo witchcraft can be combatted by exorcism.

Perhaps some elements of European belief in Witchcraft have been incorporated by a process of syncretism into Navajo doctrine, in view of the long contact with Spanish speaking people. Most assuredly, many aspects of Navajo religion have been borrowed from the non-Navajo and assimilated into a Navajo system. The legends themselves trace the origin of many clans to Pueblo, Ute, Hopi, Mexican and other sources, largely through intermarriage with non-Navajo women. It is very likely that such association was a source of many elements of Navajo religion, although the elaboration that we observe in present day ceremonials is most certainly a reflection of Navajo creative and imaginative genius.

6. Non-Navajo Religions.

Since Fort Sumner times, and especially since the opening of the 20th Century, contact with Christianity has steadily grown. Less than a half century ago the Roman Catholic, Episcopal, Christian Reformed, Presbyterian and Methodist churches maintained less than a dozen missions in the Navajo

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(11) From French s'esbattre, to frolic, according to H. W. Smith.

(12) Homer W. Smith, "Man and His Gods," Little, Brown & Company, Boston, 1955.

Country. Today, there are more than 76 missions scattered throughout the area, most of which entered just after World War II. Some operate modern schools and medical facilities; others are exclusively concerned with evangelization. Some groups pursue a long term policy of gradually superimposing Christianity on the native religion to ultimately supersede it; other groups maintain a short term policy and strive to extirpate native religion immediately to replace it with a form of Christianity. Regardless of the policy pursued by evangelistic groups, the Navajo continue to practice the native religion and often find no inconsistency in simultaneously participating in Christian practices in view of the fact that one of the primary objectives of the latter is immortality, in contradistinction to Navajo religion which is concerned only with life—or with death only to the extent of attempting to avert it. In recent years the growth of education on the Navajo Reservation is rapidly changing the Navajo way of life to which the traditional religion was and is so closely attuned. It is strictly a Tribal religion, and its benefits and practices are not generally applicable to non-Navajos. Further, ceremonies must be carried on within the area bounded by the Sacred Mountains, and nowadays Navajos are going, in ever increasing numbers, to live in areas remote from Navajoland.

Although ethics is not a concern of Navajo religion, the teaching of a code of social behaviour and the inculcation of social and moral values in children by elder members of the family was a common winter's night pastime in former times. Nowadays, with a majority of the children in school during the winter months, there is neither opportunity for them to attend the winter ceremonies or receive traditional instruction from their elders. Nor are they nowadays being trained to take their place in the traditional society, but rather to merge with and integrate themselves into our own. These changes no doubt spell the ultimate, and perhaps not too distant, extinction of the traditional way of life wherein the white man's school and church will finally replace the traditional Navajo institutions.

The movement away from the traditional religion has been not only toward the usual forms of Christianity, but also toward an "Indianized" form known as the Native American Church—or more commonly as "peyotism." This sect or cult is characterized by ceremonial use of a cactus button containing mescaline and other alkaloids capable of producing certain psychoogical effects when ingested in sufficient quantity.

Peyote[13] has been used by certain Mexican Indian groups for many cenuries, and during the latter quarter of the past century its use spread among many of the Plains tribes where it was taken in conjunction with rites and eremonies of part-Christian, part-Indian content and origin. In about 1910

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13) For the most part information contained herein with regard to Peyotism on the Navajo Reservation, was taken from an unpublished report by Dr. David F. Aberle, who will shortly publish a more comprehensive study.

peyotism spread to the Southern Ute, and after 1935 it began to sprea collaterally with livestock reduction, to the Navajo Country. The extent its spread is not known, although Dr. Aberle has estimated the number Navajo members at 12,000 or more.

Since its introduction in the Navajo Country, a bitter controversy ha revolved about the Peyote cult. Adherents of traditional Navajo religio and representatives of Christian groups have joined in denouncing th peyote button or its alkaloids as an addictive narcotic. Both groups hav accused peyotists of immoral, orgiastic behavior, and have sought to ban th practice. Since 1940 the Navajo Tribe has proscribed the use, sale, barte and gift of peyote on Tribal land, although enforcement of the ordinanc has been sporadic and ineffectual. The Federal Government approved th anti-peyote ordinance, recognizing the right of the Tribe to govern its i ternal affairs but, since Federal law does not ban the use of peyote unde the Federal Narcotics Act, Federal Police Officers could not be used t enforce the Tribal law.

Peyotism is a radical departure from traditional Navajo religion i many respects, although membership in the cult does not preclude continue participation in the traditional religion. In fact, Dr. Aberle reports that som Medicine Men are themselves cult members. Mystic and theoleptic in nature peyotism exhibits an emotionalism that is totally atypical of the traditiona religion—a contagious emotionalism not unlike that attending the ancien Dionysian cults or, in modern times, revivalism, and the emotional outburst that characterize the practices of certain Christian sects.

Peyote is ingested ceremonially to place man in communication wit God, since peyote is looked upon as a holy plant imbued with supernatura power. In fact, the alkaloids contained in the "button" reportedly have th power to produce colored visions and other psychological effects. Com municants experience unusual sensations, thoughts and emotional disturbance during which they may weep, confess their sins and wrong-doings, and pray

The prayers are universal, seeking the blessing of all mankind in contradistinction to the restrictive prayers of traditional Navajo religion, and make frequent reference to God, Jesus, Mary and other Christian figures. The express a feeling of helplessness and refer to mankind as "children" whom the Heavenly Father must shield and protect.

Peyote links man with God, with whom he can then communicate hi needs, and from whom he can acquire knowledge or regain his health Navajos apparently join the peyote cult initially to seek cures for disease from which they are suffering and for which traditional ceremonies hav proven to be ineffectual. Others are proselytized by kinfolk who have be come cult members.

Livestock reduction in the 1930's threatened the security of the Navajo people and left in its wake a wave of apprehension, frustration and fear, a circumstance no doubt closely associated with, if not responsible for, the advent and spread of peyotism.

The Native American Church has existed among Indians in parts of Oklahoma and in other states for many years; whether it will follow the same course in the Navajo Country, only the future can tell.

5. **Death.**

At the time of the Emergence from the underworld, the Sacred Mountains were brought up from below and placed as the boundaries of the world the Navajo were predestined to inhabit. The Sacred Mountains were identified as male or female—i. e. as possessing the essence of maleness or femaleness—and were appropriately adorned with "hard goods" (white shell, turquoise, jet, banded aragonite, etc.), covered with mist, rain, sunbeams, mirage, pollen and other embellishments. The Sacred Mountains became the home of various Hashch'eeh and other supernaturals, and they were covered with **Sa'a (Tsa'a) (Tsi'a) Naaghai** and **Bik'eh Hozhoon.** These are abstractions difficult to translate into English, and indeed difficult of definition by Navajo medicine men themselves. Perhaps Sa'a Naaghai can be described as the essence of life—the power of vegetation to rejuvenate itself and that of the species of animate life to replenish their kind. It is the power of continuity of life itself, without which all living would end. Perhaps Bik'eh Hozhoon[14] can be described as the essence of universal harmony and order, a necessary concomitant of the power and fact of animate and inanimate eproduction and living. Without such harmony and order, the orderly coninuity of life would be hampered or made impossible and there would be niversal death, not only of individual living entities but of life itself.

With respect to individual plants, animals and men, death is conceived s a normal end of the individual life cycle, and an aspect of the destiny of Man from the Navajo viewpoint. Although during life he attempts to avert death and prolong living through observance of taboo, proper ceremonials nd other media, he does not live out his years in morbid fear of his ultimate emise. In fact, death is accepted as a necessity for, when the Twin Culture Heroes were subduing the monsters and personalized dangers or evils that hreatened to make the world uninhabitable by Man, they spared Death as a orderline evil whose ultimate effect is beneficial to Man and to the orderly ontinuum of life. In pleading his case, Death pointed out to the would-be onquerors that without him the aged would soon fill all available space in the world and there would be neither room nor resources for future genera tions of people.

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[14] Navajo bik'eh: acording to it; hozhoon: probably a nominalized form of hozhoni: it (spatial or impersonal "it"—the universe) is beautiful, perfect, harmonious, good. cf. nastaan, a similarly constructed verbal noun equivalent to nastani; log (lit. a slender stiff object lying horizontally). Thus, possibly, bik'eh hozhoon: that according to which there is perfection, beauty, goodness and harmony. Sa'a (tsa'a) naaghai is difficult to define etymologically.

At death, according to traditional Navajo belief, a person's breat (hayol), and "that which stands within one" (hayi' siziinii) leave his body t lose their identity and blend into the cosmos. They are the essence of lif which animated him during the time he was a living organism, but like measured quantity of water poured into a river, they are no longer identifi able as **him** after they leave his body.[15] In a sense these terms are translatabl as "soul" or "spirit," but without the connotation that they retain th characteristics or identity of the person to whom they pertained in life. I another sense, "that which stands within one"—the essence of life with respec to an individual entity—is comparable to Sa'a Naaghai, the essence of th continuity of life in a universal sense.

However, Man is a composite of good and evil. At death the essenc or spirit of life, his breath and "that which stands within him" leave his bod to blend with the cosmos and lose their identity, while the evil side of hi personality remains as an unassimilated residue contaminating his corpse, th dwelling place in which he died, his possessions, and the place where he i buried. This evil remains as a ch'indii, potentially dangerous to the health welfare and even the lives of those who come in contact with it. If he die within his hogan, the dwelling becomes uninhabitable, and even its timber become unusable. Sometimes the moribund are taken outside or to a hospita to die, and burial must follow prescribed rules of procedure and ritual i those concerned are to avoid contamination.

Navajos fear and avoid the dead, taking every possible precaution t prevent contamination. Coyotes are scavengers potentially harborin ch'indii, and an evil spirit may sometimes appear in the form of a coyote often as a warning of impending misfortune.[16] Sometimes a ch'indii repor edly takes the form of a man, bird or animal, or acts to produce bad dream anxiety, disease and even death. According to accounts of witchcraft, ma terial associated with an intended victim is sometimes buried in a grave i order to contaminate and bring evil upon him.

Navajo belief does not teach the doctrine of an afterlife in the sens that the soul or spirit retains its personal identity, or in the sense that th person is rewarded or punished according to his deeds. He does not, so f as the legends teach, gain personal immortality, and Navajo religion co

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(15) Cf. Latin **anima**, breeze, breath, mind, soul, and its various forms in the languages derived fr Latin (Spanish, Italian, alma, anima; French ame, etc.) with the meaning of English soul.

(16) Recently the estranged husband of a Navajo woman shot himself and his wife to death. H relatives gave an account of how, the previous day, she had seen and heard two coyotes on nearby hill as she herded her flock. She sent her dogs to drive them away, but the coyotes tacked and drove off the dogs. This fact, plus the circumstance that two coyotes were togeth howling in the daytime, was taken as a warning, and its implications were interpreted after t tragedy as meaning death for two people. She herself had been frightened and had told the sto

erns itself only with the prolongation of life—the averting of death—it is ot a preparation for afterlife. If there is a post-mortem existence for Man t is in the memory of those who survive him, and in future generations in hich he was a reproductive link.[17]

6. Navajo Cultural Values and the Code of Ethics.[18]

The system of cultural values and, by implication, the basic precepts of he code of ethics that characterize traditional Navajo society, are well ummarized by Albert[18] in the statement that "to belong to a large and miable family, to know how to get along well with others, to have good ields and large flocks, to be strong and healthy, to know how to keep and ncrease what one has, to work and to enjoy oneself, to know how to fend off he dangers that beset man, to have nice things and to be able to create eautiful objects and preserve harmonious relations with men and the powers hat control the world, and at last to grow into wisdom and dignity in old ge—this is the lot of the fortunate, the reward of those who live as the Old eople taught, the hope of those who wish for a better life than they have."

As we pointed out in describing Navajo religion, a primary concern of an is the maintenance of order, harmony and balance between himself and he supernatural world by means of knowledge, ceremonial or practical, acuired and utilized to ward off evil (prevent disorder) or to exorcise evil reestablish order). Religion is concerned with **this** life—not with preparation or an afterlife, and the code of ethics governing the behaviour of men ithin the framework of traditional Navajo society is geared to the parallel ttainment of harmony and order in human inter-relationships as a primary alue.

Albert[19] lists knowledge, family, possessions, enjoyment and health as ocal values of the Navajo group she studied (the Ramah Navajos), and these re no doubt shared, as a generalization, by the remainder of The People so ar as the traditional society is concerned.

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17) By some the afterworld is identified as chindiitah, and is placed somewhere far to the north below the level of this earth, possibly the uppermost of the underworlds. This concept is based upon an account, in the Origin Myth, of the first death, in which some of The People were missing after the Emergence from the underworld. The missing persons were found by someone who looked down the Emergence hole, and it was discovered that they were dead. Some believe that, after death, a person returns to the Underworld, possibly through the Emergence hole.

With regard to the nature of the underworld and an afterlife, some believe that people continue to live much as they live in this life and in this world, while others believe the underworld to be dark. See **Navajo Eschatology,** by Leland C. Wyman, W. W. Hill and Iva Osanai, publ. 1942 by the University of New Mexico Press.

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8) This section draws freely on Dr. Clyde Kluckhohn's essay entitled "Navajo Morals," published by the Philosophical Library Inc. in the ENCYCLOPEDIA OF MORALS, and upon Dr. Ethel M. Albert's "The Classification of Values: A Method and Illustration," American Anthropologist, Vol. 58, April 1956. The information for both sources in turn derived from The Comparative Study of Values in Five Cultures Project of the Laboratory of Social Relations, Harvard University, supported by the Rockefeller Foundation, Social Science Division. See also "The Structure of a Moral Code," by John Ladd, publ. 1957, Harvard University Press.

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9) Op. Cit. (18).

The acquisition of knowledge is essential to the attainment and ma tenance of order and harmony, whether between men in society, or betwe Man and the supernatural world. In his human relationships Man must lea to be a good kinsman and neighbor, one who practices the golden rule, i harmonious relationship is to prevail. He must be willing to cheerfully c charge his responsibilities toward family, immediate relatives, and fell clansmen, helping them in every manner possible and necessary when ask to do so, whether it be the provision of transportation to a hospital, t proffer of hospitality, or assistance with a ceremonial and he may expe like treatment in turn when the need arises. He should, idealistically, exte his generosity, courtesy and helpfulness beyond immediate family, kin a clan relatives to include friends and fellow tribesmen.

In **our** religious system, the code of ethics governing human relatio ships and behaviour is primarily theological, and obedience to divine injur tions against forbidden thoughts or deeds (sin) is an aspect of preparati for life after death. Certain crimes and other proscribed acts are conceiv as wrongs, not only toward society, but also against God; as such, th constitute disobedience to divine mandate, and potentially subject t offender to future punishment or loss of immortality.

In contradistinction, the traditional Navajo conceives of crime ar wrong-doing as actions producing, or capable of producing, disharmo within society; situations which must be averted or remedied by appropria action to prevent chaos in human relationships. Observance of taboos ca preclude certain types of disharmonious relationships between Man and th supernatural world, and proper ceremonies can restore harmony in th connection when disrupted. Similarly, observance of the proper modes behaviour toward one's fellow man can preclude loss of harmony in huma relationships, and certain remedial actions can restore harmony in this respe if it is disrupted. Thus, when one wrongs a fellow man by theft, injury to h person or property, rape, murder, adultery or similar acts, he destroys th harmonious relationship that should exist, and he must placate the wronge person through restoration of goods, or appropriate payment.

As Reichard observes, ethics, in Navajo life, is empirical rather tha theoretical or theological. Crime and wrongdoing are social problems, an they are not conceived as acts of disobedience to divine mandate.

Many actions denounced as unequivocally wrong in **our** Society, may b intrinsically good **or** bad from the Navajo viewpoint, depending upon effec Thus lying may be good if it results in good and does not disrupt harmony it may be bad if its effect is essentially bad, contributiong to disorde Other actions, as adultery for example, are fundamentally bad because the infringe upon another's property rights and frequently create disharmony ncest and witchcraft are unequivocally evil because their effects are never good.

Man should live and conduct himself in a manner assuring prosperity, personal enjoyment and good health, ends for the achievement of which he must be industrious, generous, courteous, just, responsible, and above all moderate in his habits and actions. Excess, whether in eating, drinking, sex, or the attainment of wealth, may result in imbalance and misery, of which disease, unpleasant human relationships and disharmony are but observed symptoms.

In traditional Navajo society children are taught by their elders, either through example or by injunction at the time a wrong action is committed. Many of the basic precepts and injunctions against behaviour of types that, on the basis of experience, usually result in disharmony, are contained in the legends, often in the form of fables in which a "moral" is set forth, and of which the following is an example:

> Horned Toad was an industrious, highly respected and well behaved person who, by dint of hard work, had built a fine house and farm for himself. One day he was busy near his hogan when he saw Coyote approaching. Being a well mannered person Horned Toad pretended not to see the approaching visitor and went about his work as before. When Coyote arrived and greeted him, Horned Toad returned the greeting politely. Then Coyote brazenly ran all about Horned Toad's field, trampling the young corn; he sniffed about in the hogan, and otherwise behaved in an unbecoming manner. Finally, Coyote stopped and announced that he would eat Horned Toad up and take over his farm. So saying, Coyote grabbed Horned Toad and swallowed him. Then he lay down in the cool interior of the hogan to nap. It was not long before he heard someone say "sh." Disturbed, Coyote looked about, but saw no one and lay back down to resume his nap. Four times he heard and investigated the sound, before he realized that it came from within himself. He asked who had spoken, and Horned Toad said it was he. Horned Toad then proceeded to wander about inside Coyote pulling on his organs. Coyote begged for mercy, but Horned Toad found his wind pipe and choked him to death. Then he crawled back out, saying "That is what happens to people who take advantage of the weak." The moral of this story is obvious.

However, Man, like the deities, is composite—he combines good and evil motivations in his makeup. Universal harmony is an ideal, theoretically attainable by proper behaviour and procedure whether between men themelves or between Man and the supernatural world, but it is a state that fails o obtain in actuality. Therefore, the availability of a remedial system is ecessary, whether in the form of ceremonial exorcism or in that of payment or wrongs committed against fellow men.

Today, the code of ethics and the cultural values of traditional Nava
society, like the religion, are undergoing rapid change under the growin
impact of non-Navajo society and institutions. The framework remains, b
it is rapidly disintegrating in the face of a new order and a new way of lif
and the traditional pattern is no longer as valid as a generalization as it w
even twenty years ago. Restoration, or payment of goods and money f
wrongs committed against fellow men is still a proper and common recour
under some circumstances to restore social harmony, but the white man
court and laws are rapidly replacing the traditional Navajo way, with i
carceration; fines paid, not to the aggrieved but to an impersonal court, c
other forms of punishment substituted as the proper avenue for the reestab
lishment of harmony and order. Understandably, to the mind of the Nava
reared in traditional society, the jailing or fining of a culprit guilty of the
or assault, in lieu of restoration of property or payment to the aggrieved f
the injury sustained is incomprehensible. Such a course does not alway
restore harmony, but actually often has an opposite observed effect.

In the complex Navajo society of today, still in a process of revolutio
ary change, individuals continue to follow many of the lines of tradition
training, sometimes only because they do not want to risk censure an
ostracism. Thus they may continue to recognize traditional responsibiliti
toward family and kinfolk, extending hospitality toward relatives, generous
lending money and equipment and the like. However, the exigencies o
modern living frequently place limitations on such traditional practices an
in fact, some employed Navajos sometimes seek to escape traditional respo
sibilities by insisting on working in locations remote from their home are
to thus place themselves beyond the reach of relatives. Outside the Rese
vation, landlords often take a dim view of occupancy of rented houses b
excessive numbers of people, especially if the latter do not form part of th
immediate family to which the housing was rented. The modern Navajo i
often caught between two opposing forces, one in which he is impelled t
discharge the responsibilities expected of him as a Navajo, to thus retain hi
identity as a member of the group; the other in which he is under pressur
by non-Navajos to live independently of his extended family and discontinu
his tribal identity. It **can** be a hard choice to make, and a middle cours
is not easy.

Finally, against the background of Navajo cultural values—industriou
ness, accumulation and care of property, avoidance of excess, generosity
enjoyment of life, and a constant striving for harmony and order in all re
lationships whether human or universal—it is not difficult to imagine th
impact upon Navajo society of such profoundly disturbing tragedies as th
Fort Sumner experience, or more recently the livestock reduction progra
and the sudden collapse of the traditional livestock economy. If the Nava
people are indeed progressive and adaptable to changing conditions, thos

ttributes may well stem directly from the compulsive desire, conscious or ubconscious, to restore lost harmony and order through a new approach dapted to changed conditions of life. Acceptance of education, seasonal mployment, industrialization, relocation and the like are new avenues leadng to the reestablishment of harmony and social order—perhaps, indeed, ven peyotism may be viewed as a new approach to the same goals.

NAVAJO PERSONAL NAMES

The personal name did not formerly function as an instrument for genral identification purposes among the Navajo as it does among non-Navajos. hortly after birth, at the time a baby first smiled, a close relative who had een to war fashioned a war name for the child—usually one reflecting some artime experience of the name-giver. The name thus given became the ersonal property of the possessor, and he or she would not reveal it to thers without cause or trust because of its potential use in working witchraft against the person thus identified. It was used ceremonially and was nown within the family group. The custom of giving war names is still bserved in Navajo society, and such names are nowadays frequently used y women requiring identification and possessing no other name. They are ot often used by men, however.

The war names are somewhat stereotyped in format. Those used for ales are frequently phrases based on the verbs **run, go** or **raid,** wherein a arrior or chief is described as **running, going** or **raiding** in various situations ith relation to the enemy. Thus, for example, He Ascended In Anger, He Running Along Amongst The Warriors, He Will Become A Chief, The hief Is Running From War, etc. Female war names are usually based on e verb **raid,** often in conjunction with nouns meaning **war** or **warrior girl.** hus, She Is Going To Lead On The Raid, They Came Raiding Back Up ehind Each Other, She Raided In A Circle, etc.

Children are often identified by a sobriquet or "pet name" describing ome childhood characteristic. Thus, such designations as Big Baby, Big oy, Gray Girl, Laughing Boy, Tall Boy, Pretty Boy, and the like.

Likewise, as an adult, one is commonly identified by a descriptive name ased on geneological relationship to someone else, clan affiliation, occuation, some personal peculiarity or other distinguishing characteristic. hus, for example, The Nephew of Speckled Horse, Tall Salt Clansman, lversmith, The One Who Cut His Hair, Long Neck, Big Moustache, Worrier, mbrella Woman, Plump Woman, Deaf Woman, etc.

With the advent of Europeans, the possesion of a family and a given ame became imperative, especially as intercourse betwen the two peoples creased and as Navajo children began to enter school. In the pre-school a, many Navajos in frequent contact with Spanish speaking people took

Spanish names, many of which remain to this day in the eastern part of th Navajo country. After the establishment of schools, teachers gave names their un-named pupils, drawing them from classical literature and the Bibl or naming the children after famous personages. Thus, we find Abe Lincol John Pershing, General Miles, etc.

In some instances teachers attempted to anglicize words they took to b family names. Inquiring about the name of a new pupil, the teacher migh find him identified as Hastiin Atsidi Biye* (Son of the Smithy). Taking th Navajo word biye', his son, to be the family name the teacher might angl cize it to Begay, a name which has become extremely common on the Re ervation. Similarly, the sobriquet Hastiin Yazhi (Little Man) might be take to be composed of Hastiin as a given name and Yazhi as the family name whereas Hastiin signifies **man** and Yazhi means **little.** Yazhi, like Begay, ha become a very common family name, and both probably owe their usag in this capacity to misunderstanding on the part of the name-givers. Yazh is spelled variously as Yazzi, Yazza, Yazzie, etc. There are many addition family names of this type.

Sometimes Navajo words forming parts of sobriquets were translate into English. Thus, Atsidi may be found both as Atsiddy (Etsiddy) or a Smith; Neez may be found as Nez or as Long, etc.

In some instances adult, non-English speaking Navajos are cursed wit ridiculous names given, their meaning unknown to the person named, b somewhat sadistic non-Navajo associates or acquaintances. Among thes are such ludicrous designations as Popeye, Angel Whiskers, Trixie Calamit Big Cigar, Horseherder, Tinhorn, Bogus Check, and some which are un printable.

Due to the fact that many Navajos either lacked usable personal name or shared the same name with a great many fellow Navajos, the use of cen sus numbers was introduced at the time of the 1928-29 census enumeratio Each person carried on the census roll was assigned a number and given metal tag on which the number was stamped. Thus, if there were 100 more Tom Yazzies on the Reservation they could be readily distinguishe when necessary. The census number system is still in use.

In former years, and to some extent at present, Navajos have bee prone to change their names at will, to the confusion of persons with who they did business. In addition, many Navajos do not possess or use the sam family name as their parents and siblings, although name changing is grad ally becoming a less serious problem, and uniformity in family name is b coming more common with education and acculturation.

HISTORICAL

Navajo tradition, the Genesis of The People, traces their beginning to ne underworlds from which the prototypical forms emerged through "ha-inai," an exit to this world the location of which is placed somewhere north f the present Reservation area. Legend recounts the origin and prehistoric anderings of the original clans and the growth of the Tribe as the incor-oration of non-Navajo peoples gave rise to new clans.

Recorded history for the Tribe begins with a Spanish document dating om 1626[1] recounting an early missionary encounter with Navajos, but only rchaeological and other research will serve to measure the length of time is Athapascan speaking group has been in the Southwestern part of the nited States. The mass of archaeological work completed by Mr. Richard an Valkenburg in connection with the Navajo Claims case will no doubt row a great deal of light on Navajo pre-history,[2] but until that material has een studied and interpreted we can only assume that the Navajo have ed in the American Southwest for a number of centuries.

On the basis of available knowledge, before the advent of European ttlers, the Navajo lived by gathering wild seeds, berries and edible plants, agriculture,[3] by hunting and by raiding their Pueblo neighbors.

The Franciscan Friars who came with the Spanish Conquistadores in arch of the Seven Cities of Cibola apparently introduced sheep to the ieblo Indians. In 1581 Padre Luis presented a few sheep to the Zuni, and a w years later the Pueblos were well on their way toward the adoption of eep raising as an aspect of their economy. In view of their raids and her contacts with Pueblos, the Navajo must have been introduced to live-ock very soon after the advent of the Spaniards.

It was no doubt some time in the 16th or early 17th century that the troduction of the horse and the sheep into Navajo culture set in motion

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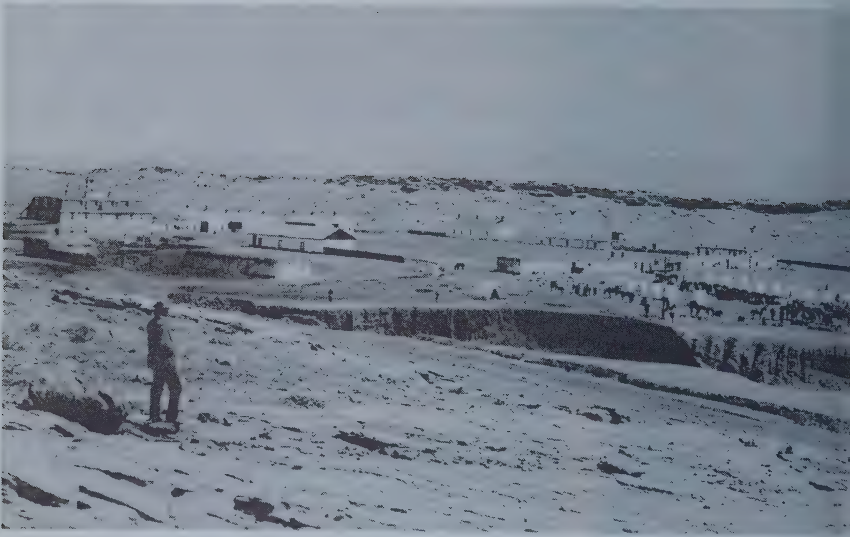
Fr. Geronimo de Barate Salmeron, "Relation of Events in California and New Mexico from 1538-1626."

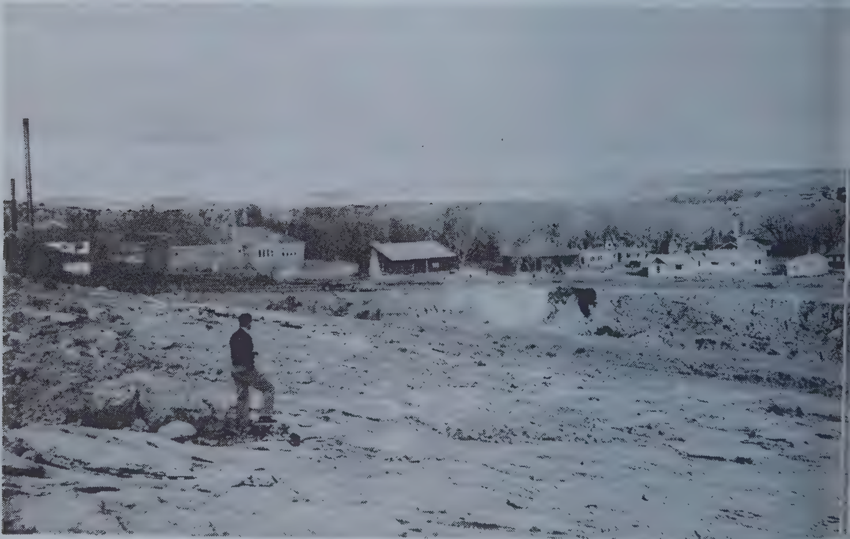
Applying to the Apachean and other Athabascan ethno-linguistic groups the lexico-statistic dating method (known as glottochronology) developed, and described in 1952, by Morris Swadesh, Dr. Harry Hoijer places the bulk of the divergences of the Apachean from the Northern Athabascan groups at about 700-1000 years ago. Dr. Hoijer's computations would place the movement of the Apachean speaking groups southward at a period about 1000 years ago, a process apparently completed about 600 years ago. If the dating method used is reasonably accurate in its application to the Apachean groups (including the Navajo), the date of their entry into the American Southwest would fall in the mid-fourteenth century—or roughly a few years prior to Columbus' voyage of discovery. (See **The Chronology of the Athabascan Languages** by Harry Hoijer, International Journal of American Linguistics, Vol. 22, No. 4, October, 1956.)

In the course of Navajo Tribal Claims research, the late Richard Van Valkenburg and his staff obtained tree ring specimens from the timbers of many ancient hogans. Although laboratory and field work is incomplete, the preponderance of early hogan sites date from the 17th century, with a few samples dating from the mid-16th century. These facts would seem to support linguistic evidence which points to the probability that the Apachean groups are relative newcomers to the Southwest.

See Hill, W. W., "The Agricultural and Hunting Methods of the Navajo Indians," U. of New Mex. Press, 1935.



Fort Defiance, Arizona, with army encampment as photographed about 1885 by Ben Wittick,



and again, from the same location, in 1940.

he trend of events that revolutionized Navajo life. The horse not only pro-ided mobility, but greatly expanded opportunities for hunting, raiding and ood-gathering. The sheep (and goat) provided a stable food supply and, lthough agriculture remained an important source of food, the Navajo apidly underwent change to become basically a pastoral society.

Although not historically nomadic in the sense of aimless, continued vandering, the Navajo people have long been a mobile group, shifting esidence from season to season in accordance with the climatic fluctuations vhich control food supply and forage. Thus, many people living near the nountains still maintain a shiink'eh (summer place) at the higher elevations nd a haik'eh (winter place) at lower elevations or on the plains. Family novements were (and are) generally confined to well defined areas of sea-onal residence and, during the planting and growing season all or a part of he family usually remained in the locality where they made their fields.

The acquisition of livestock not only changed the way of life of the ribe from a somewhat precarious hunting-agricultural economy in which here was little opportunity or incentive to accumulate wealth, to a pastoral conomy in which an adequate food supply was virtually assured, but also ne advent of livestock introduced the opportunity to accumulate property. any early Navajos became wealthy stock owners, and were commonly alled the "Ricos" by the Spanish Colonials.

The livestock represented a valuable commercial resource, and laid the oundation for the subsequent growth of trade culminating in the pastoral-arter economy so characteristic of Navajo culture a few decades past, and roviding a stepping stone to the modern wage-economy in which livestock gradually fading into the background to be replaced by a new value in ne form of dollars.

It was the mobility of the Navajo that brought them into conflict with ne Spanish-Mexican Colonials, and later with the United States Govern-ent. Never town-dwellers like the Pueblos, the advent of livestock had ncouraged ever wider dispersion of Navajo families to assure sufficient rage for their increasing herds. They raided the settlements and vanished the face of punitive expeditions vainly sent after them and, as the colonial opulation grew in the Rio Grande Valley, the Navajo expanded westward, rther and further into the wild broken country where they could find ecessary range and elude their enemies.

The Spanish-Mexican period was one of almost constant warfare in nich both the Navajo and the Spaniard took slaves and booty. Thus, writing 1865, General James H. Carleton[4] said, "With the exception of one or o intervals of a few years each, there has been a state of hostility between e people of New Mexico and the Navajo Indians. Even in these intervals

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Lipps, Oscar H. "The Navajos" (Appendix)—1909.

occasional forays were made into the settlements to capture sheep ar
cattle. The Mexicans would kill some of the Indians and capture some of th
women and children and make slaves of them. But in times when open ho
tilities existed these efforts were increased on each side to capture stoc
women and children, so that the country was kept in a continual state
commotion. This was the state of things when we acquired the territo
from Mexico."

Writing in the same year Chief Justice Kirby Benedict observed tha
"The Navajos were in the habit of making forays upon the ranches and settl
ments, stealing, robbing and killing and carrying away captives; the findin
of herds and driving off sheep and other animals was carried on to a ver
ruinous extent; the killing of persons did not seem so much the object
their warfare as an incidental means of succeeding in other depredation
Sometimes, however, barbarous vengeance was exhibited and a thirst fo
blood. They carried away captives, but I cannot now give any accurate ide
of number."

Another observer of the same period (1865), Dr. Louis Kennon wrot
"I think the Navajos have been the most abused people on the continen
and that in all hostilities the Mexicans have always taken the initiative wi
but one exception that I know of. When I first came here the Navajos wer
at peace, and had been for a long time. There was a pressure brought t
bear—to make war on the Navajo. General Garland was commander of th
Department at that time, and if you asked the Mexicans any reason for ma
ing war, they would give no other reason but that the Navajos had a grea
many sheep and horses and a great many children—."

Speaking of the Navajos taken as slaves by the Mexicans, Chief Justic
Kirby Benedict went on to say, "There are in the Territory a large numbe
of Indians, principally females (women and children), who have been take
by force or stealth, or purchases, who have been among the various wi
tribes of New Mexico or those adjoining. Of these a large proportion ar
Navajos. It is notorious that natives of this country have sometimes mac
captives of the Navajo women and children when opportunities presente
themselves; the custom has long existed here of buying persons, especial
women and children; the tribes themselves have carried on this kind of traffi
Destitute orphans are sometimes sold by their remote relations; poor paren
also make traffic of their children. The Indian persons obtained in any
the modes mentioned are treated by those who claim to own them as the
servants and slaves. They are bought and sold by and between the inhab
tants at a price as much as is a horse or an ox. The prices have lately range
very high. A likely girl not more than eight years old, healthy and inte
gent, would be held at a value of four hundred dollars or more. When th
grow to womanhood they sometimes become mothers from the natives
the land, with or without marriage. Their children, however, by the custo

of the country, are not regarded as property which may be bought or sold as have been their mothers. They grow up and are treated as having the rights of citizens. They marry and blend with the general populations."

Speaking of slavery, Dr. Louis Kennon wrote "I think the number of captive Navajo Indians held as slaves to be underestimated. I think there are from five to six thousand. I know of no family which can raise one hundred and fifty dollars but what purchases a Navajo slave, and many families own for or five, the trade in them being as regular as the trade in pigs or sheep. Previous to the war their price was from seventy five to one hundred dollars, but now are worth about four hundred dollars. But the other day some Mexican Indians from Chihuahua were for sale in Santa Fe. I have been conversant with the institution of slavery in Georgia, but the system is worse here, there being no obligation to care for the slave when he becomes old or worthless."

In 1846 President James K. Polk declared war on Mexico and three months later General Stephen W. Kearney entered Santa Fe to proclaim the act that the people of the Territories of New Mexico and Arizona were hereafter to consider themselves citizens of the United States. The Amerians were aware of the long history of warfare in the newly acquired terriories and intended to put an end to it: They concluded treaties of peace with the Navajo[5] and other Indian groups and, in 1851, established a fort at Fort Defiance to assure control of the Navajos.

No serious warfare broke out between the Navajo and the American roops until 1858, when an altercation growing out of the presence of Navajo orses in the meadow reserved for horses belonging to the military, and the eath of a negro servant, precipitated hostilities. An unratified treaty of peace was concluded in 1858 which, incidentally, was the first American treaty to define the eastern boundary of the Navajo Country, but hostilities ontinued, culminating in a large scale but unsuccessful attack on Fort Deance by Navajos on April 30, 1860. In 1861 the Civil War broke out and the American troops were withdrawn from Fort Defiance, thus freeing the Navajos to raid the settlements and surrounding pueblos with impunity.

In 1863, General James Carleton assumed the responsibility for literally ounding up the whole tribe, the intention being to drive the Navajo to a eservation set aside for them at Fort Sumner, New Mexico, where they ould be taught a sedentary, agricultural life patterned after that of the ueblo Indians.

Colonel Kit Carson, a well known "mountain-man" who had spent many ears among the Indians in the Southwest and elsewhere, and who knew the ountry intimately; was placed in charge of the round-up operation, carried ut during 1863-64. Applying a scorched earth policy Carson starved the

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[5] Treaty of November 11, 1846; an ineffective treaty concluded in Santa Fe in 1848; a treaty of July 9, 1849.

Navajos into submission, and drove them into a four year exile at Fo Sumner.

Colonel Carson reviewed the Navajo War in a deposition recorde subsequently in a document entitled "Condition of the Indian Tribes—Repo of the Joint Special Committee, Appointed under Joint Resolution of Marc 3, 1865, with an Appendix," (published by the Government Printing Offic in 1868), which states in part, "I know that even before the acquisition New Mexico there had about always existed an hereditary warfare betwee the Navajos and Mexicans; forays were made into each other's country, an stock, women, and children stolen. Since the acquisition, the same state ha existed. . we would hardly get back from fighting and making peace wit them before they would be at war again. I consider the Reservation sy tem as the only one to be adopted for them. If they were sent back t their own country tomorrow, it would not be a month before hostilities woul commence again. There is a part of the Navajoes, the wealthy, who wish t live in peace; the poorer class are in the majority, and they have no chief who can control them. When I campaigned against them eight months found them scattered over a country several hundred miles in extent. Ther is no suitable place in their own country—and I have been all over it—wher more than two thousand could be placed. If located in different places, i would not be long before they and the Mexicans would be at war. If the were scattered on different locations, I hardly think any number of troop could keep them on their reservations. The mountains they live in in th Navajo country cannot be penetrated by troops. There are canons in thei country thirty miles in length, with walls a thousand feet high, and when a war it is impossible for troops to pass through these canons, in which the hide and cultivate the ground. In the main Canon de Chelly they had som two or three thousand peach trees, which were mostly destroyed by m troops. Colonel Sumner, in the fall of 1851, went into the Canon de Chel with several thousand men and two pieces of artillery; he got into the cano some eight or ten miles, but had to retreat out of it at night. In the walls the canon they have regular houses built in the crevices, from which the fire and roll down huge stones on an enemy. They have regular fortification averaging from one to two hundred feet from the bottom, with porthole for firing. No small-arms can injure them, and artillery cannot be used. I one of these crevices I found a two-story house. I regard these canons impregnable. General Canby entered this canon, but retreated out th next morning. When I captured the Navajoes I first destroyed their crop and harassed them until the snow fell very deep in the canons, taking som prisoners occasionally. I think it was about the 6th of January, after th snow fell, that I started. Five thousand soldiers would probably keep the on reservations in their own country. The Navajoes had a good many sma herds when I went there. I took twelve hundred sheep from them at on time, and smaller lots at different times. The volunteers were allowed one dollar per head for all sheep and goats taken, which were turned over to the commissary. I think General Carleton gave the order as an encouragement to the troops. I think from fifteen hundred to two thousand could subsist themselves in the Valley de Chelly. At this point it took me and three hundred men most of one day to destroy a field of corn. I think probably fifteen hundred could subsist on the northeastern slope of the Tunacha mountain. I know of no other place near by where any considerable number could subsist themselves. While I was in the country there was continual thieving carried on between the Navajoes and Mexicans. Some Mexicans now object to the settlement of the Navajoes at the Bosque, because they cannot prey on them as formerly. I am of the opinion that, in consequence of the military campaign and the destruction of their crops, they were forced to come in."

The Fort Sumner experiment failed miserably. Disease, crop failure, ack of firewood and failure to receive necessary supplies combined with other factors to make the "exile" a nightmare for the 8,474 Navajo men, women and children reportedly at the Fort Sumner Reservation on June 27, 1865.[6] The proportion of the Navajo population which was taken captive is uncertain. On April 24, 1864[7] General Carleton wrote to the effect that "A copy of an official letter from Colonel Christopher Carson, 1st Cavalry, N. M. Volunteers, dated the 10th instant. In this letter the Colonel expresses his convictions that we have not yet got one-half of the Tribe of Navajoes." General Carleton differed with Carson, expressing the view that "from all I can learn, I think the Colonel over-estimates the number of those not come n. In my belief the Ricos not yet surrendered, but who it is said, will soon come, do not number over two thousand. We have now, in round numbers, ix thousand, which would make the whole number of the nation to be eight thousand—a full estimate, I think."

The actual proportion of Navajoes captured probably lies somewhere between the estimates given by General Carleton and Colonel Carson and the actual Navajo population in Fort Sumner times was probably somewhere between 9,000 and 12,000.

6) Deposition of Captain H. B. Bristol, Condition of Indian Tribes, Report of Joint Special Committee, publ. 1867 GPO. "Am Captain in the 5th United States Infantry, and stationed at this post; I have been here since the 22d of May, 1863; I have been part of the time commanding officer of the post, and acting military superintendent of the Navajo Indians. When I came here there was but one Navajo Indian here. He was taken from a Mexican who offered him for sale for ten dollars; so that all of them have been brought here since I came here. They came at different times. Total number brought here, 8,474; of these there were men, 2,325; of women, 2,710; of children, 3,164; infants at the breast, 275. At the last count, on the 30th of April last, there were present 7,169. The difference in numbers is accounted for by deaths not reported, and absence of those who were hunting. Some others reside on the Reservation, some twenty to twenty-five miles from the post, and were not present at the count, herding their stock. Some of them are owners of considerable herds of horses and sheep and a few mules and goats. The number of deaths reported among the Navajoes from all causes, so far as it has come to our knowledge, is two hundred and sixteen since the 1st of February, 1864."

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7) Op. Cit., p. 180.

In 1868, recognizing the Fort Sumner experiment as a failure and a ceding to Navajo entreaties, the United States Government concluded treaty with the tribe whereby The People were returned to a 3½ million ac fraction of the country they previously held. A total of 35,000 sheep ar goats were purchased by the government and issued to the returned ca tives and the latter dispersed to once again occupy the old homeland, muc of which now lay outside the boundaries of the Treaty Reservation, a fa which brought them into conflict with settlers, the railroads and other i terests in subsequent years. The Treaty Reservation was too small for th rapidly increasing population heavily dependent on a livestock economy an through a series of Executive Orders and Acts of Congress extending fro 1878-1934, the Reservation area was increased to approximately 15,000,00 acres. However, during the period 1868-1938 the population had grow from a maximum of 12,000 to 40,000, and the expansion of the land bas had never kept pace with population growth.

The Navajo country, the people, and their problems at the beginnin of the post-treaty period were charmingly described by J. H. Beadle wh spent five years traveling through the western territories, including Okla homa Wyoming, Utah, California, Arizona and New Mexico, during th period 1868-1873. He visited Fort Defiance and other parts of the Nava Country in 1871, just three years after the return of the People from Fo Sumner, and described his visit in the following terms:[8]

"The dominant race of this section are the Navajoes, who roam over country 300 miles from east to west and nearly 200 from north to sout They are a most interesting race of barbarians, though savage in war an somewhat inclined to thieving. They and the Apaches have been at wa from time immemorial. The Navajoes are splendid speciments of physic humanity—the finest of Indians I ever saw, except, perhaps the Chippewa of Northen Minnesota. These are the first Indians I have met who have nc the stereotyped "Indian face"—the face we have heard described so ofte either overcast with a stern and melancholy gravity, or lively only with a uncertain mixture of cunning and ferocity. Their countenances are general pleasing, even mild and benevolent. They have many young fellows whos faces show the born humorist. Wit, merriment and practical jokes enlive all their gatherings, and, quite contrary to our ideas of Indian characte they laugh loud and heartily at everything amusing. They are quite inquis tive, too, and seem vastly pleased to either see or hear something nev Both men and women work, and are quite industrious until they have accum lated a fair share of property; then they seem content to take things eas In short they are as much unlike the "Stage Indian," and as much like tribe of dark Caucausians as it is possible to conceive.

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(8) Beadle, J. H. Five Years in the Territories, Chapts. 15-16.

Their handiwork is very ingenious. They make pottery like that of the ueblos, from whom it is supposed they learned the art. Their blankets are he wonder of all who see them. They are woven by the squaws in a rude rame, and are so compact that water can be carried in them four or five ours before it begins to leak through. One woman was engaged near the ort in weaving an unusually fine blanket for one of the officers, and though watched the process for an hour at a time, cannot fully describe it. A large tout beam is fastened firmly to the joists of the hut, or to the limbs of a ree, as they often do all the weaving out-of-doors. From this, by a leather oop at each end, is suspended a "turn stick," about the size of one's wrist. similar beam below is fastened in the ground or floor, and from it another turn stick" is suspended by loops. On the two sticks the warp, or "chain" s stretched very tight, the two sets of strands crossing in the middle. This, ith two loose sticks dividing the chain and a curved board, looking like a arrel stave with the edges rounded, constitute the entire loom. The squaw its before this with her balls of yarn for "filling" conveniently arranged, orks them through the strands and beats them firmly together with the ose board, running it in between the strands with singular dexterity. The oolen yarn for "filling" is made from their own sheep, generally, and is of hree colors, black, white and red from native coloring. Running these toether by turns with nimble fingers the squaw brings out on the blanket quares, diamonds, circles and fanciful curves, and flowers of three colors, ith a skill which is simply amazing. Two months are required to complete n ordinary blanket, five feet wide and eight long, which sells from $15 to 50.00, according to the style and materials. At the Fort (Wingate), officers ho wish an unusually fine article, furnish both "chain" and "filling," but hose entirely of Navajo make are very fine. One will outlast a lifetime; and hough rolled in the mud, or dobbed with grease for months or years, until very vestige of color seems gone, when washed with the soap weed, (mole actus), the bright native colors come out as beautiful as ever. They also anufacture, with beads and silk threads obtained from the traders, very eautiful neck ties, ribbons, garters, cuffs and other ornaments. More intersting to me than any of their handicraft, is the unwearying patience they splay in all of their work, and their zeal and quickness to learn in everying which may inprove their condition. Surely such a people are capable civilization.

Officers and Agents universally tell me that Navajoes work along side any employees they can get, and do full work. They dig ditches and make nbankments with great skill, handling the spade as well as any Irishman. e most intelligent of them say it will be no use to import laborers here to ork on the railroad; they will learn how to do the work themselves.

Ft. Wingate was established in August, 1868, by the troops who came ere that year with the Navajoes. It is nearly on the same site as old Ft.

Fautleroy, afterward called Ft. Lyon, which was hastily abandoned in 186 when the Texans overran New Mexico. When this was built, old Ft. Wingat 60 miles southeast, was abandoned.

The region has many wild animals. The antelope, black-tailed dee black bear, big gray wolf, wildcat, grey fox and beaver are found by huntin in the mountains, while the coyote is altogether too common, and even the Fort my sleep was sometimes disturbed by its long-drawn and mela choly howl. But the game near the post has been greatly thinned out by th Navajoes, and the officers go out some distance to hunt. There must b myriads of some kind of insects, judging from the presence of insect eatin birds, such as the woodpecker (two varieties), bluejay, fly-catcher, larg raven, blackbird, owl and hawk (several kinds), magpie and rocky mounta bluebird. The officers tell me that during most of the season there are va flocks of buzzards hovering constantly about the Fort, but at this time the are off in the woods or cliffs hatching.

It is rather curious that there should be such an abundance of anim life in what appears to be such a barren country, and more particularly tha there should be so many scavengers (buzzards, etc.) in a dry and cool localit It may be partially explained by the fact that there is more timber abo there than in the mountains generally, and in the timber probably more foo for small birds, etc., than one would think from the appearance of the plai

On the sixth of June, Mr. William Burgess, blacksmith for the Nava Agency, at Ft. Defiance, Arizona, reached Wingate from that post; and concluded that was my best chance for company on another stage of m journey. The distance between the posts is just 45 miles, as measured by L Beall's odometer, in 1860; and Defiance is about 3 miles west of the ter torial line.

The distance we rode easily in 9 hours, stopping an hour at noon. The is water at but one point on the road, Stinking Springs, sometimes polite called Sheep Springs. Our mules drank of it, under protest, and with mar sniffs and contortions of the lip; and I tasted it from curiosity. It appea like a solution of blue dye, and tastes like white oak bark. To some it is dangerous cathartic, but to most a powerful astringent. We left Winga with full canteens, and having a delightfully cool day, did not suffer fro thirst. Our road wound about to nearly every point of the compass, bearin generally northwest; and here and there we encountered the Navajo Tra often crossing our road at right angles and stretching directly over the hil thus lessening the distance at least a third. But it is safer for white men follow the main road, the trail being indistinguishable for a mile or two places, on the bare sandrock or among the pinon thickets. Four miles fro Wingate the valley makes a great U to the northward, and our road ru over the foothills for three miles; then enters the valley again, which the narrows to a mere pass. A vast dike of hard trap-rock extends across the country from north to south, standing out above the sandstone like an artificial stone battlement; runs out from each side of the valley in abrupt causeways, and leaves a rugged gap only a hundred yards wide. This opens nto a broad and fertile valley, across which three miles bring us to the Rio Puerco of the west. The Puerco I crossed on the 26th of May runs southeast nto the Rio Grande; this one southwest into the Colorado Chiquito. We crossed this puerco, rising again into the northern foothills, and stopped for noon in a pinon thicket. The A. and P. R. R. line follows on down the puerco unning 15 miles south of Defiance, and I have travelled directly along its ines from El Rito.

For the 90 miles, from the old volcano at Agua Azul to Defiance, the 'country rock" is entirely of sandstone, or occasionally soap stone, if that be counted an exception.

The solitary break in the formation is the large dike of trap-rock. I saw ot a particle of granite, slate, quartzite, or primary limestone—consequently, no indications whatever of gold or silver leads. The general testimony of soldiers and explorers here is that the formation slowly changes oward the north, even to the San Juan river. There it is granite, and there, lso, are valuable gold and silver mines.

At the puerco I left the line of the Atlantic and Pacific Railroad. I might ave followed it southeast to a point a little beyond the Zuni settlements, hich is regarded as the northeast corner of the Apache country; but just hen I did not care to go farther in that direction. A 50 mile strip of Zunis nd Navajoes is the least I care to have between me and those interesting avages. I could hear enough about them at that distance.

Twenty-five miles from Wingate we descend a gentle slope into the lakes"; not bodies of water as the name might imply, but an oval valley of reat natural fertility, some five miles by three in extent. A few years ago was overflowed in winter for a month or two; but in the general drying up hich this country has suffered of late, it is perfectly dry all the year. I examined the soil with some curiosity, and found it exactly like that of our Wabash and Ohio "bottoms." If the reader will imagine one of our most ertile tracts of black, rich, loam, plowed, then well rolled, and left for a few ears without a drop of rain or dew he will have an exact picture of one of hese rich but unwatered valleys. I easily kicked up the black, loose soil, hich bore not a spear of grass, and yet had every element of abundant ant life but the one thing, moisture. Three showers would cover it with a ch carpet of green; water enough for irrigation would make it a blooming arden. Everywhere in this region we come upon dried lakes, dead springs nd wells, and occasionally cross river beds which evidently once had a olume equal to that of the Miami. Marine and fresh water shells are found

by the wagon load in dry flumes, and near them piles of pueblo pottery a
broken adobes, where the only indication of moisture at present is found
a few sickly cottonwoods, annually growing less numerous.

Twelve miles more of gently rolling hills and pinon groves bring us to t
"hay stacks." These are a series of cones of yellow sandstone, somethi
over 100 feet high, and 50 feet wide at the base, running up to a sha
point. They stand upon an almost level plain, but half a mile away is a roc
ledge containing a vast natural bridge, arched gateway, and all forms
rock tower and battlement which can be imagined.

Eight miles farther brought us to Defiance, situated at the foot of
low rocky range, and almost in the mouth of Canyon Bonito.

Approaching the post across a sandy plain we first come to a dry riv
bed, with enough of stunted grass to show that water still runs there som
times. Following up the stream we find first a pool of water ,then a flock
sheep, then Indian farms, and occasionally a hogan, from which the Navaj
squaws and children peep out at us with a sort of hungry curiosity. We cro
a common field of 100 acres or so, which the Navajoes have thrown up in
beds of two or three rods square for irrigation, and ride into the Fort.

The white population sally nearly enmasse with one cry, "Where's t
mail? Why the hell didn't you bring the mail!"

My companion explained that high water on the Rio Grande or son
other cause had prevented any military express reaching Wingate fro
Santa Fe, and consequently there was no mail. The general disgust w
painful to witness.

"Here's a gentleman," said my companion, "just from there; maybe
can tell you about Congress."

Then all centered on the question:

"How about the Indian Appropriations Bill? Will they do anythir
about provision for these Navajoes?"

I replied that to the best of my knowledge and belief, Congress ha
made no special provision for the Navajo Agency, and pending the prese
issue in national affairs, probably would not. Then every man in the outpo
looked as if all his relations had just died insolvent. General assent was give
to the remarks of one employe.

"There'll be another Navajo war, and we'll have to clear. These are t
best Indians on the continent, willing to work, and don't want to fight. Bu
damn it, they can't starve to death right here. We've destroyed their livin
run off all the game and shut 'em up here. and their crops failed two yea
If we were in their place, we'd fight. They must steal, or starve, or figh
one o' the three. Ain't a man here in Government employ that's been pa
a cent for twelve months. They'll give the Apaches sugar and coffee a

flour, because they're a murderin' and robbin', and won't give these men anything because they've been peaceable for eight years, and these fellows know it, too. Well, they'll be another Navajo war,—that's what they'll be."

Defiance is only nominally a fort. There is no military post, no soldiers, and only twenty whites all told—four American ladies, one Mexican and fifteen Americans, all employes of the agency. Mr. James H. Miller, Agent of the Navajoes, was absent on an expedition to the San Juan country, and his place supplied by Mr. Thomas V. Keams, the clerk. The other officials and employes were: J. Miller, carpenter; W. Burgess, blacksmith; J. Dunn, wagonmaster; Perry H. Williams and Ezra Hoag, "on issue of rations"; A. C. Damon, butcher, and Andrew Crothers, in charge of grain room. The religious and medical staff constitute an entirely separate department. The physician, Dr. J. Menaul was also a minister, and held service every Sunday; and his lady, Mrs. Menaul, was the teacher employed for the Navajoes. John H. Van Order acted as interpreter from English into Spanish, and Jesus Arviso from Spanish into Navajo, both employed by the Government and both necessary to a perfect intercourse. Nearly all the employes understood a little Navajo, but not enough to interpret.

Mr. B. M. Thomas, post farmer, constitutes a department by himself, appointed by the Indian Bureau; and the Navajoes are laboring zealously under his instructions. In the ecclesiastical division of the Indian tribes, this region fell to the Presbyterians, and their Board recommends their officers. Mr. Lionel Ayers fills the position of Post Trader, appointed neither by Church nor State, but vouched for by the agent, and licensed by the Secretary of War. The agent and farmer had their wives here, the physician his wife and sister, bringing up the population of this strange isolated community to a total of twenty whites—sixteen men and four ladies: all interesting as occupants of the last outpost, on my route of civilization. From here my companions for a dreary four hundred miles were to be Moquis and Navajoes.

As it was but seventy miles to the De Chaco ruins, I was making ready o visit them with Navajo guides, when the news of an unlooked for tragedy eached us, and threw the little community into a state of consternation.

We were seated at breakfast the morning of the 13th, when one of the party which had gone to San Juan arrived, completely exhausted, and announced that Agent Miller had been murdered, and all their horses stolen but one; that he had started immediately with that, and the rest of the party were coming afoot. Next day the others arrived, quite worn out, having walked a hundred miles in three days, carrying their baggage. Their account s as follows: The party, consisting of Agent Miller, B. M. Thomas(Agency farmer), John Ayers and the Interpreter, Jesus Arviso, left Defiance on the th of June, to inspect the San Juan Valley, with a view of locating the Navajo Agency there. The examination was most satisfactory, as they found one fertile and beautiful valley near the river, capable of being irrigated by a single acequia, and sufficient to support the whole tribe. At the sam time, three others left the settlement on a prospecting tour, reached Sa Juan one day after the Agent's party, and were camped twelve miles fro them on the bluff. Neither party dreamed of danger from the Utes, as th tribe had been at peace many years; and, though they annoyed the Navajoe greatly, had not molested white men. On the morning of the 11th, just a dawn, Miller's companions were awakened by the report of a gun and whis ling of an arrow, both evidently fired within half a dozen rods of them. The sprang to their feet, and saw two Utes run into the brush; ten minutes afte they saw them emerge from the opposite side of the thicket, and ride u the bluff driving the company's horses before them. They did not know, a first sight, that the Utes were hostile, or that they had fired at them. Joh Ayers spoke to Miller, who did not reply; he then shoved him with his foo still he did not wake. They pulled off his blanket, and found him dead. Th Ute's bullet had entered the top of his head and passed down behind h right eye, without disarranging his clothing in the slightest. His feet wer crossed, and hands folded exactly as when he went to sleep; his eyes wer closed, and lips slightly parted into a faint smile, as if from a pleasant drear —all showed beyond doubt that he had passed from sleep to death withou a struggle or a sigh.

Thus died James H. Miller, a true Christian, faithful official, and a brav man. He was a native of Huntington County, Pennsylvania, enlisted in th Fifty-fifth Pennsylvania Volunteers, and served three years and four months most of the time as Lieutenant in Company H. He was appointed Agen of the Navajoes, in December, 1870, entered on his duties soon after, and i the midst of discouragement. The annuity for the previous year was exhausted ;the crops had partially failed, and in 1871 the failure was tota On the verge of starvation, the Navajoes were still kept in tolerable orde by his exertions, until the next annuity arrived; and he was carrying out mor extended plans for their benefit at the time of his death. He was a devou Presbyterian, and an earnest supporter of what is called "the humanitaria Indian policy." The race lost an active friend by his death. The grief of th Navajoes was profound and unaffected. His companions and the minin party buried him near where he was killed. His wife and infant son were a Defiance, but started to the States in a few days with the military express

A general Ute war was apprehended, and all thoughts of an expeditio in that direction were abandoned. I wandered about the Navajo country, gathering curious stones, and studying the "lay of the country"; but mostl amused myself by taking notes of the Indians. Their condition was wors than ever before. The last grain in the Agency storehouse was issued t them on the 14th, and most of them looked lean and hungry enough. The began on their horses and sheep, having decided to eat their old horses an wethers first, saving the ewes and goats to the last; for these are more hard and besides, their milk is an important item. As long as there was grain, we purchased goat's milk of them, paying in grain; and I found it very palatable and nutritious. But I did not relish the flesh, finding it rather rank and stringy. I did not taste horseflesh, though in my visits to some of the more distant hogans, I found them gnawing away at what looked suspiciously like equine shanks. The white men who have eaten it say it is very nourishing, but I am too old now to overcome my early prejudices. The Agency employes had not been paid for a year, and as they have to buy their own provisions, things looked blue for them. When I first arrived, they were faring sumptuously on coffee, bacon, bread, potatoes, and goats milk; but one by one, our luxuries vanished, and for the last three days we lived on Navajo bread, coffee and "commissary butter," straight.

In all their troubles the Navajoes are lively, cheerful and looking for better times. To see ten thousand people able and willing to do almost any kind of work, with natural talents of no mean order, and most anxious to improve, to see such a people shut up on this barren plateau, and kept out of that part of their country in which they could live, literally perishing without a chance to help themselves, was enough to sadden even a hard heart. What would a community of ten thousand whites do in such a case? Who, if anybody is to blame, I do not know. The melancholy facts I saw.

But Congress did not adjourn without passing the Indian Appropriation Bill, and soon the Superintendent at Santa Fe sent them grain enough to last till a new crop came in. There was rejoicing in the hogans in consequence. The Navajoes are the original Romans of New Mexico and Arizona. For two hundred years they carried on almost continual war with the Spaniards, disdaining all offers of peace or alliance, and preying upon the valley of the Rio Grande. At length each separate Mexican settlement adopted the plan of buying off its nearest Navajo neighbors, paying tribute to one band to guard them against the rest. This succeeded admirably until the American occupation; then the "Greasers," emboldened by the idea that our army would protect, refused the tribute, and the Navajoes descended in three bands, and swept several settlements clean of their stock. They committed their worst depredations all around, and within twenty miles of, the last division of Kearney and Doniphan's forces.

A flaming proclamation of war was issued, and of the results the report of J. Madison Cutts, with the army speaks thus cautiously:

"The campaign against the Navajoes was accomplished in the dead of winter, without supplies or tents. He succeeded in forming a treaty with hese troublesome Indians, represented as more warlike than the Mexicans, o whom they were a great source of dread and injury, on the 22d of Noember, 1846." The fact was, our army could not then afford to go to war with a brave and desperate race in such a country as the Navajoes occupied.

Occasional difficulties took place until Fort Defiance was establishe
in 1850. Then there was peace for seven years. In 1857 a negro slave
Major Brooks, an officer stationed there, had a difficulty with a Navajo sub
chief. The friendly and compliant manners of the Indians had led the soldie
to consider them cowardly as well as peaceable. The Negro passed the chie
on the parade ground one day, and turning behind him, gave him a violen
kick. The Navajo whirled about and let fly an arrow, which passed entirel
through the negro, who fell dead. The Indian fled to the mountains; th
tribe refused to surrender him, and another war began, and lasted, with bu
slight intermission, until 1864. The national officers found it impossible t
conquer the Navajoes except by destroying their stock. It is reported tha
over fifty thousand sheep were bayoneted. One little valley, a few mile
from Defiance, is almost literally paved with the skeletons of sheep destroye
there to prevent the Navajoes from using them. The Utes also drove awa
many thousands, and this tribe was completely beggared. But before the
were entirely subjugated, the Texan invasion of 1861-62 took place, com
pelling the abandonment of this post and Wingate, and the Navajoes ha
things their own way again.

In 1863 General W. H. Carleton led an army thither, completely des
troyed their means of subsistence, and induced the whole tribe to surrende
They had not a sheep left, and very few horses. Numbering ten thousand
they were taken in a body to the Fort Sumner reservation, where small-po
and endemic fever preyed upon them, and one-eighth of the entire trib
perished. The venereal poison also was there introduced among them, whic
has destroyed many. In 1868 their great Chief, Barboncito, made such rep
resentations to General Sherman as induced him to consent to their retur
here. They went zealously to work, and in 1870 raised about half a cro
The seeds furnished by the department were unsuited to this high altitude
and most of their plants were cut off by the September frosts. In 1871, the
planted extensively, worked hard, and had every prospect of an abunda
crop, when, on the night of May 30, came a storm unprecedented in th
region; the ground was covered an inch thick with sleet, and every plant an
young fruit tree frozen solid to the ground. The annuity goods and prov
sions of that year were soon exhausted, and theft or starvation was the onl
alternative. But the sheep given by the Government had increased rapidl
and are now numbered at thirty thousand in the tribe. Their horses are re
turned at twenty thousand. The difficulties in the way of improving the
condition are many: they are a pastoral rather than an agricultural peopl
their most fertile and extensive valley, on the San Juan, they can not no
farm on account of the Utes, and many other valleys formerly productiv
are now barren on account of the four years' drought. Near where I crosse
the Puerco is a beautiful valley from which, as Mr. Dunn informs me, whe
he was a soldier here, they hauled fifty wagonloads of corn, and destroye

on the ground a hundred more. Now, no cultivation could raise a grain there. The Puerco at that point, in the dry season of 1958, had a current a rod wide and two feet deep; now it looks as if water had never run there since the creation. The "big field," two miles south of Defiance, which produced seventy bushels of corn per acre five years ago, can not now be cultivated at all. A small river ran there, which is now totally dry. I am inclined to think that this country has wet and dry cycles, of ten years or more each. Neither snow nor rain enough has fallen within the last two years to make up the moisture of one of the wet months in former times.

Mrs. Charity Menaul, the teacher, reports considerable progress among the Navajoes under her charge. In my visits there and talks at the hogans, I learned many interesting particulars of Navajo theology, etc. Like most savage races, their religion is principally superstition. Chinda, the devil, is a more important personage in all their daily affairs than Whaillahay, the god. Like the Mormons, Shakers, and other white schismatics, they attribute everything they don't like in other people to the personal agency of the devil; and about the only use of their god is to protect them from evil. They have a tradition of a flood, but think that was caused by the devil damming the rivers. Their moral code is extremely vague: whatever is good for the tribe or band is in general right; whatever is not pro bono publico is wrong. Cowards, after death, will become coyotes; while braves will continue men in a better country. Women will change to fish for awhile, and afterwards to something else. But they don't trouble themselves much about the next world. If they had plenty in this, they would consider themselves in luck.

The luxuries of life are not obtainable at Defiance, some things we should call necessaries are rather scarce. Navajo flour is the only kind used. The first meal I was delighted to see our Indian servant bring in was what I recognized as an old Yankee acquaintance—"Graham biscuits": though they looked rather more coarse and lumpy than the Eastern kind. The first mouthful I thought was half dirt; it "gritted" so on my teeth that I could not restrain an expression of disgust. At this my host, Mr. Keams, acting agent, apologized by saying that the "Navajo grindstones were soft, and left rather more grit in the flour than he liked." A few meals soon reconciled me to this grit, and I am convinced that Navajo flour makes the most wholesome bread in the world. The grinding is done by women, who become quite skillful. The lower stone is some eighteen inches long, sloping a little from the worker. The upper stone is about six inches square. The woman lays a clean sheep-skin on the ground, sits on one side of it with the wheat by her, and the stones in front; then rakes the wheat up by a regular motion of the eft hand running the small stone over the other with the right. The wheat rolling down as she grinds, is reduced to a fine pasty flour. For corn two or three women usually grind together, each one passing it to the next, who educes it to a finer consistency. In their bright-colored garments, with long black hair swaying as they move their bodies back and forward, a group c them looks very picturesque, if not neat, while at work they sing a monotonou song, which sounds very much like our rural "Barbara Allen," in very slo time. For their own use they make of this pasty flour a very thin mixtur no thicker than starch, which they cook on hot stones. The fire is built in small hole, on which is placed the flat stone, no more than an inch thic when sufficiently hot, the squaw thrusts her hand into the starchy solutio and rapidly draws a handful, which she spreads upon the stone. In a hal minute it is cooked in the form of a thin brown wafer, no thicker than carc board. Another follows, and another, until the cooked wafers form a laye some six inches thick. They then roll them up in shape convenient to carr Half a gallon of the thin paste of flour will make a roll the size of a ha bushel. That which I have eaten has a rather insipid taste, from the want c salt or other seasoning; but is very nutritious and strengthening. The brea they made of corn I find very palatable. Two bushels of wheat is a day' grinding for one squaw. They complain that the stone hereabout is ver poor for grinding, wearing out in a few days, and leaving too much grit i the flour. Our bread was regularly prepared in a stove, and our Indian coo displayed some skill; besides, when accustomed to it, I found it very palatabl and while using it my digestion was simply perfect. I spent many hour every day in the hogans of the Navajoes, trying, when they were in a teaching humor, to catch the peculiar click of their language. I soon acquire some fifty words, and began to see something like system in the language.

Their social customs and adornments have a singular resemblance t those of the Japanese. They treat their women as well as most white nations Men do the out-door work, women that of the household. The latter ar very communicative, humorous and mirthful, and nothing seemed to amus them so much as my attempts at their language, at which they would liste and laugh by the hour. They say that a woman first taught them how t weave blankets and make water-jars, for which cause it is a point of hono with a Navajo never to strike a woman. Their women are not overworked o abused, and are consequently more shapely and graceful than those o other tribes. It is a singular sight to witness an Indian carrying a baby, whil the squaw walks unweighted, but one may see it every day about Defiance They formerly captured many Mexican women, whom they adopted an married, which may have produced some change in the general characteristics of the tribe. They are the only wild tribe I know who do not scal dead enemies. They never had that practice. In fact, they never touch dead body, even of their own people. Each hogan is so constructed tha the weight rests mostly on two main beams. When one dies in a hogan they loosen these two outside, and let it drop upon him. If one dies on th plain, they pile enough stones upon him to keep off the coyotes, but neve touch the body. This observance is a serious drawback in one respect: i prevents them from building permanent dwellings. It is said to be a part of their religion, but from the confused accounts I have of it, I draw the conclusion that it originated in some great plague, where contagion resulted from touching the corpse. They are very inquisitive; a watch or pocket-compass will interest them for hours. If I were in the mission business, I would rather be a missionary among the Navajos than any savage people I know of, for here is some native mental activity to work upon. But their anguage would present a great barrier to christianizing them.

When a communication is twice translated, it triples the ambiquity; and that is the method employed with them; one interpreter speaks English and Spanish, the other Spanish and Navajo. I made my remarks in the plainest, most terse English I could command, which the American translated into the florid Castilian; this, in turn, the Spaniard rendered in the hissing, complicated phrases and cumbrous polysyllables of the aboriginal tongue.

Defiance is located on some maps directly on the Territorial line; by others in New Mexico, and by others, still, some sixty miles west of the line in Arizona. It is, in fact, three miles due west of the surveyed line. On maps of later date you will find a Fort Canby in New Mexico, and Defiance in Arizona. They are the same, called by different names.****

Ten days among the "gentle savages"—for so the Navajoes appeared to me—had given me a rest, and I was ready to go west, expecting to accompany part of the tribe on their summer hunt down the Colorado. But time was pressing, and I concluded to employ one to take me via De Chelly to the Moquies, where a trading party would overtake us, and go on to St. George, Utah. Mr. Thomas V. Keams, Clerk and Acting Agent, outdid official courtesy to give me a good send-off; and calling Juerro, war-chief of the tribe, together they selected a most intelligent young man of about twenty-five. I also procured gun, horse, and equipment, blankets and provisions at reasonable rates; for it takes an Indian to trade with an Indian. I was to provision myself and one man to the Mormon settlements, and one man back, besides his fee. Thus ran the bill: Thirty pounds of flour, ten pounds of bacon, ten pounds of sugar, five pounds of coffee, and six boxes of sardines, the whole costing but twenty dollars. The same sum to my guides, and five dollars for the hire of a burro, made the total expense for a trip of nearly five hundred miles, forty-five dollars—not much more than railroad fare. My horse, bridle, saddle, lariat, gun (a Spencer) and two Navajo blankets cost me two hundred dollars; but these are not to be counted in the general expense, as they were worth nearly as much in Utah.****

The Bonito Hills, averaging five hundred feet above the plain, run directly north and south. On the west side of them is a vast inclosed basin, from which Canon Bonito breaks directly through the hills—a sharp, abrupt gorge, square across the formation, with perpendicular walls entirely inaccessible. The east end of the canon broadens into a little valley, at th mouth of which, though out on the plain, the fort is situated. A large rive once ran through the gorge, of which the successive periods can be trace on the sandstone walls to a height of two hundred feet. This seems to hav been the original bottom of the canon, whence the river steadily cut deepe until it had completely drained the basin above. The river had long bee dry when the fort was located, but several springs in the east end of th canon created a stream sufficient to irrigate two sections of the land on th plain. Here the Navajoes had raised corn and melons from time immemorial; they had no other vegetables when found by the whites. The presen occupants of Defiance have thrown a dam across this end of the canon producing a beautiful artificial lake some three hundred yards long, an rising so high as to leave barely room for a wagon road. The lake is strongl alkaline, but a few rods below is a strong spring of the nicest and pures water to be found in these mountains. It is the one important treasure o this post, which, without it, would be almost uninhabitable.****

Our direction is north by northwest to the head of Canon de Chell (from Ft. Defiance). All this part of Arizona consists of a succession of high almost barren sandstone ridges, separated by narrow valleys **abounding i rich grass.** While on its eastern border I thought the Navajo Reservation a very poor strip—it contains nearly 6000 square miles—but since I have seen more of it I think it will graze at least half a million sheep and goats, beside horses enough for the necessities of the Tribe.

Three miles out, (from Ft. Defiance), a turn around a sandstone clif brought to view a delightful surprise in the shape of a beautiful green valley about a mile square, perfectly level and covered with grass a foot high. On every side of it rose bare columns and ridges of sand-rock, but from their base trickled here and there tiny rills of water—enough to keep the valley fertile. Herds of sheep and goats, attended by Navajo girls, and some horses attended by boys, enlivened the scene. Through this, and on to another sand ridge, then three miles more, brought us to a long narrow valley winding for miles among the hills, and looking as if it had once been the bed of a river, and been heaved up by some convulsion. For hours we crossed such valleys every two or three miles, none of them more than a hundred yards wide, and separated by barren ridges. The grass in the valleys was rank and thrifty; the ridges had nothing but an occasional spring of sage brush or cactus. Everywhere along the grass plats were shepherd girls with considerable flocks, each girl carrying a set of Navajo spools and a bunch of wool, on which she worked in the intervals of watching. These spools are very similar in shape to those used in our rural districts, but large and clumsy With a pointed stick, turned in the right hand, the spinner runs the wool on to the larger spool in rolls somewhat smaller than the little finger. Having filled it, and transferred to a smaller stick, she runs it to the smaller spool in the form of a very coarse yarn, when it is ready for the "filling" in a blanket. Herding is the most laborious work the Navajo girls have to do; they have all the advantages of the healthful climate, without the fatigue of long expedition, and are, as a rule, stronger and healthier than the men. They are the only Indian girls I ever saw who even approximate to the Cooper ideal. Their dress is picturesque, consisting of separate waist and skirt; the former leaves the arms bare, and is made loose above and neat at the waist; the latter is of flowered calico, with a leaning to red and black, and terminates just below the knee in black border or frills. Neat moccasins complete the costume, the limbs being left bare generally in the summer. They are very shapely and graceful, and their strength is prodigious. How these mountaineers, on the thin food they have, manage to produce such specimens of perfect physical womanhood, is a mystery to me. One of the prettiest girls I saw at Defiance, named "Zella" by the Teacher, who knew a little English, informed me that for months at a time she had nothing but goat's milk, boiled with a thin, watery root, which they use for food. Where goat's milk is plenty, the children thrive well on that alone. These shepherds are the best situated of any part of the tribe, and their living, though plain, is not so uncertain as that of the cultivators.****

With reference to the Canon de Chelly, after supper I took an evening stroll as far as I could go up one of the gulches, and after lighting my pipe had sat down upon a rock to watch the line of sunshine and shadows slowly creep up the sixteen hundred feet of the opposite cliff, when I was startled by something like a groan. Within a rod of me, but so low I had not noticed it, was a temporary hogan; and glancing in I saw a woman with ulcerated face, lying on an old blanket, and murmuring in troubled sleep. She waked, and, seeing me, muttered, "Hah-koh!" which invitation being declined, she reached out a trembling and blotched hand, murmuring, "Nah-toh, nah-toh" tobacco). Having given her all I had with me, she became quite communicative; then, seeing I did not fully understand, pointed to the sores on her arms and mournfully muttered, "Chah-chos, chah-chos," a Navajo word indicating the venereal poison. (Syphilis: chach'osh). She was in the last stages, and had evidently been removed to this place to die, as they never use a hogan in which any one has died—another singular resemblance to the Chinese. Their physicians treat this disease with the sweat-house and the application of a peculiar clayey stone, pounded fine, and indigenous herbs; and often, white men tell me, with great success. There is something horrible in the idea of these simple mountaineers receiving such a curse from the superior race.****

(On June 20 the author arrived at the opening of Canon de Chelly, and described the scene as follows:) The grand scenery continues to the very mouth of the canon, which we reached in two hours, then breaks down into a brief succession of foothills and ridges of loose sand, and brings us to an open plain. Here were two or three sections of land under some sort cultivation by the Navajoes, but it was the most pitiable prospect for crop I ever saw. The feeble, yellow blades of corn, three or four inches i height, had struggled along through drought and cold until the heavy fros of June 17th, and now most of them lay flat on the ground. My guide wave his hand over the field, exclaiming, mournfully, "Muerto, muerto" (dead) "No chinneahgo Navajoes."* A few of the more resolute were out replanting, which they did with a sharpened stick, or rather paddle. They dig hole some ten inches through the dry surface sand to the moist layer underneath, in the edge of which they deposit the grain. They plant wheat the same way, in little hills a foot or so apart, and weed it carefully till it i grown enough to spade the ground. If there is water they irrigate; otherwise, it has to take its chances, and the guide informed me that the acequia we saw issuing from the canon had been dry pasar muchos anos (for many years). Twenty bushels of corn and ten of wheat are extra crops. If any citizen of rural Ohio, who can deliberately sit down three times a day and recklessly eat all his appetite craves, is dissatisfied, he ought to travel awhile in this country. The stream that sinks above gives this tract enough of subsoil moisture to insure some growth. Crossing the dry arroyo we rose on the western side to a vast flood plain, ten miles wide, and running as far as I could see from north to south. The surface showed that it had been flooded some time within the last few years; there was not a trace of alkali or other noxious mineral, and the soil was of great natural fertility. But there was not a spear of vegetation on it, simply for lack of moisture. Here are at least a hundred square miles, formed of detritus and vegetable mold, utterly worthless for want of water. If artesian wells are possible, the whole tract may be of great value.****

(The author and his guide proceed beyond Chinle toward a low range of grey and chalky looking hills. As they approach, the sage brush becomes thicker, and they finally arrive at and climb a rocky cliff which they describe as like riding up a mountain of chalk.) On the western side, my guide had told me, we should see the last Navajoes, but we soon met most of the colony driving before them their little herds, and to the guide's question they replied that the grass there was gone, the water dried up to one spring, and that was hohkawah ki wano (decidedly not good). Though I did not quite understand this, I saw, by its effect on the guide, that was bad news for us, who had already ridden forty miles. We found but one family left, and their brush hogan showed that they were on the move. The woman brought out a copper kettle full of water from the only spring, a mile up the gulch which was horribly slimy and stinking; but the guide decided that we must have some of it, and in an hour's climbing we reached it.

*Nothing to eat for the Navajos.

All around the little pool the sandstone had been trodden to powder, and was blowing into the spring, the water was of a sickening green, full of weeds, and ugly creatures, and looked and smelt as if ten thousand goats had waded through it. My Navajo pointed sadly to a few tufts of grass, which had been chewed to the ground, and even the roots pulled up by the goats, and intimated, by gestures, that we must go till long after sundown to find good grass.****

Every Apache is a born robber and murderer. Extermination, whether in war or under the form of reservations and legal justice, is their certain fate; and the quickest way is the most merciful.

It is directly the opposite with the Navajoes. They acquired considerable civilization before they met the whites; they will work readily at any productive employment, and learn the use of tools very readily. There is as great a difference between a Navajo and an Apache skull as between that of a Saxon and a Malay. I took occasion to examine several of both tribes when our party got down to the old hunting-ground, where several battles had been fought, and where I saw probably fifty skulls, both Apache and Navajo. The latter are high and round enough to show considerable development in the moral qualities, and the capacity to keep treaties.****

To sum up, finally, on my Navajo friends: I am decidedly of the opinion that they can be civilized, and that the present policy of the administration has been, and will be, a perfect success as applied to them. Their career, I think, will be somewhat like that of the Cherokees, except that they will become cultivators and manufacturers in much shorter time. The great mistake, I think, in treating on Indian character is this: Writers and statesmen ascribe certain traits to Indians without any distinction, classing all in one category; while the simple fact is, there is a greater difference between diferent tribes than between the native Caucasian of Boston and the native Caucasian of Hindoostan. The Navajo is no more like the Pi-ede or Pi-Ute han the average American is like the Hindoo. There are tribes evidently progressive, others stationary, still others retrograding. There are many incapable of the slightest advance, and awaiting only a slow extinction."

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In 1866, two years before the Navajoes signed their last treaty with the United States, Congress passed the so-called Enabling Act to encourage the construction of railroad systems. In accordance with this Act, public lands n alternate sections extending to a depth of 40 miles on either side of the ailroad right of way could be granted to the railroad companies to thus make investment in railway construction more attractive. The Act was mended later to grant an additional 10 miles of grant lands to offset losses resulting from prior claims of settlers.

When the Tribe returned from Fort Sumner in 1868, the intention was o hold them within the limits of the 3½ milion acre treaty Reservation, and

the treaty of 1868 itself so provided. However, in view of the fact that t
Reservation area was too small for a pastoral people, and in view of t
fact that the country for many miles around had previously been occupi
by the Tribe, the Navajo soon spilled over the Reservation boundary a
reoccupied the areas where they had lived before going to Fort Sumn
In fact, **some** Navajos had continued to live in the Navajo country while t
main body of the Tribe was in captivity, and **some** returned directly to o
areas of occupation upon their return from exile.

In 1876 Tribal leaders received word that a railroad was to be bu
along the Southern boundary of the Reservation, and that the Atlantic ar
Pacific Railroad Company was to receive the customary strip of alterna
sections along the right of way. This strip bit deeply into land the Navaj
considered their own by right of prior occupancy and, indeed, soon broug
many Navajo families into conflict with the Railroad Company, for the
found themselves to be squatters on Railroad Sections. The Company d
manded their removal to the Reservation, and the Navajos resisted in va
for, during 1881-82 the Atlantic and Pacific (later to be known as the Atlant
Topeka and Santa Fe) tracks crossed Northern Arizona.

In other instances, Navajo families settled on the public domain outsi
the Reservation boundaries, only to be dispossessed by white settlers wh
filed for homesteads on the same areas and thus established a legal clai

Many Navajos settled in the area east of the Reservation in Ne
Mexico, and some of these people were protected in their rights of occu
pancy by the Executive Order Extension of January 6, 1880. Subsequentl
the eastern portion of the Reservation was further extended by the Execu
tive Orders of November 9, 1907 and January 28, 1908, issued by Presiden
Theodore Roosevelt. For a few years the eastern Navajos were safe in the
rights of occupancy, but not for long. Demands of non-Indian stockmen com
peting with the Indians for grazing land in western New Mexico resulted i
the restoration of the two eastern extensions to the Public Domain. This wa
accomplished by President Roosevelt's rescission of one of the Executiv
Order Extensions on December 30, 1908, and by President Taft's revocatio
of the other on January 16, 1911.[9] The Indians, their property and securit
placed in jeopardy, were bitter, and for many years, until the 1930's, the
attempted to regain the lost territory.[10]

Just before the Reservation Extensions in New Mexico were revoke
allotment agents were sent by the Bureau of Indian Affairs to assist Navaj
living in the area affected to file allotment claims on the land restored t

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(9) V. Hagerman, H. J., Navajo Indian Reservation, Senate Document No. 64, P. 29 (1932).

(10) According to R. Van Valkenberg the eastern boundary recommended in the Navajo-New Mexi
Boundary Bill of 1936 was coterminous with the eastern reaches of the Navajo Country agreed up
and marked with stone monuments in the first known treaty between the Navajo and the Mexic
government, concluded on October 29, 1819.

the Public Domain. This was accomplished in accordance with the Indian Allotment Act of 1887 which permitted individual Indians to apply for and receive trust patents on certain types of land. In the New Mexico area the Indian allotments were interspersed among non-Indian holdings, creating what is currently known as "The Checkerboard Area." In recent years both the Navajo Tribe and the Bureau of Indian Affairs have been working toward the consolidation of Indian holdings through exchange and purchase. The Checkerboard Area has long posed serious problems, especially with regard to criminal jurisdiction with regard to land use and with respect to trespass on public domain, state, railroad and private holdings.

Also, although the exterior boundaries of the Reservation have been redefined by Acts of Congress for areas in Arizona and Utah, the eastern boundary in New Mexico remains that established by the Executive Order of January 6, 1880.

The years since the return from Fort Sumner have been hard years for many Navajos. The growing population was obliged to eke a living from an inadequate land base which, through over use, was rapidly deteriorating. The resulting soil erosion led the Department of the Interior to impose grazing regulations in the 1930's and force reduction of the number of livestock using the Reservation rangeland. During the period 1930 to 1940 livestock fell from 1,111,589 to 621,584 sheep **units,**[11] with the brunt of the reduction being borne by horses and goats. Although not all were required for actual use, horses were accumulated in the traditional society as symbols of wealth, and the Navajo were reluctant to part with them. At the same time The People, already facing serious economic problems, untrained for any life except the traditional pastoral way, were convinced that their security, if not their very survival was seriously threatened. They reacted by fighting the reduction program bitterly for more than a decade.

In the course of carrying on the many soil conservation and public works projects of the 1930's, the Federal Government introduced the beginnings of a wage economy to the Reservation. Prior to the period in reference few Navajos had ever performed services in exchange for cash with which to purchase the necessities of life. The old economy had been based primarily upon barter of livestock, wool, and other products for food and clothing, or for credit at Reservation trading posts.[12] In fact, many families subsisted on credit extended by traders against a future lamb or wool crop, and there were few cash payments to Navajos for agricultural

11) A sheep unit is determined by the amount of forage required to sustain one sheep or goat for one year. Horses and mules counted as 5 sheep units, and cattle at 4.

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12) Even in the first decades following the return from Ft. Sumner, ad before the construction of the railroad, there was a brisk trade in Navajo produce. In the letter book of the Ft. Defiance Agency for the period Sept. 1880-Sept. 1881, Navajo Agent F. T. Bennett states that "not less than 1,100,000 pounds of wool have been marketed this season (just closed) and I should estimate that at least 100,000 pounds were manufactured into blankets and for clothing for their own use."

and other products. Some traders utilized trade money, each "coin" o token representing credit in a specified amount at the specific trading pos issuing the trade specie. There was no need for actual money as a medium of exchange and, as a result, many Navajos could barely count money, much less use it judiciously in lieu of produce and credit as media of exchange The WPA, CCC, SCS, and other public works organizations were the foundation of the Reservation wage economy, for through such employment many Navajos were introduced to the use of cash.

World War II brought a labor vacuum to which many Navajos flocked for employment in wartime industry, on railroads, in off-Reservation agriculture and in mining. In addition, an estimated 3600 young men found their way into the armed forces. As a result, during the war years, The People broadened, not only their knowledge of money, but their cultura horizons generally. They learned how to live in the world outside the Navajo Country; they were introduced to customs of the white people and to the English language, and at the end of the war they were no longer the people of a few years before.

With the close of World War II, the wage work upon which a majority of Navajo families had come to depend came to an abrupt end. The People suddenly found themselves obliged to return to the Reservation whose meager resources had become even more depleted through negligence during the war years. Some families returned with only empty stock permits; many had only a handful of stock, or farms that had not been in production fo several years. As a result, the Navajo people found themselves in dire economic straits.

It was a crisis requiring immediate action. It had been known for many years that Reservation resources were inadequate for the support of the total population at anything approaching an acceptable living standard, bu the plight of the Navajos did not become a matter of national concern until the post-war period. Emergency relief was provided, both by the Congress and by a generous public throughout the land, but relief was only a stop-gap The Navajos, in the course of living and working outside the Navajo Country during the war years had realized the need for education to provide salable skills, knowledge of the English language and related tools without which they could not hope to compete successfully with non-Navajos for a livelihood.

As a result of the crisis of the late 1940's, Congress enacted into law the Long Range Program for the Rehabilitation of the Navajo and Hop tribes, authorizing a total of $88,570,000 for appropriation over a ten yea period for the accomplishment of certain specified basic objectives.

At the same time Congress abandoned the paternalism that had pervaded Indian policy for nearly a century, and substituted a policy of gradua

The Navajo scene is changing fast. Sheep-herding, the traditional task of Navajo children . . .

Must nowadays be done by adults. The children are in school.

withdrawal of Federal supervision over the lives and affairs of Indian tribes. The intention was to prepare Indian groups gradually to accept and exercise greater responsibility in the administration of their own affairs, toward the time when they could be brought to the social and economic level of the nation as a whole, after which the Federal Government planned to withdraw all special services of those types provided to Indians as such. Withdrawa programming took into account the varying degrees of acculturation attaching to individual tribes, and recognized the fact that more time would be required to prepare some groups than would be required for others, depending on factors involved.

As a result of special programming and the change in Federal Indian policy, coupled with a decade of national prosperity, the Navajo have undergone what amounts to a social and economic revolution during the period 1947-1957, and the period of rapid change has not yet ended.

The development of the Navajo Tribal Council has been outlined in detail under the heading "Political Organization," and its rapid growth in strength, leadership and effectiveness is apparent in the discussion of its organizational expansion. However, the acceleration in development which has characterized the Tribal Government in the last decade is perhaps best illustrated and traced through the medium of some of the more important actions of the Council during that period.

IMPORTANT ACTIONS OF THE NAVAJO TRIBAL COUNCIL

In 1940, the Chairman of the Navajo Tribal Council received a salary of $200 per month for which he presided over meetings of the governing body, acted as a liaison officer between the General Superintendent and the Tribe, and dealt with those items of tribal business that came to him for attention. It was a difficult position, principally because of the conditions surrounding both the Council and the Bureau of Indian Affairs during the livestock reduction years. During the same period Council delegates were paid at the rate of $3.00 per day.

In 1949, the Chairman of the Tribal Council moved his residence to Window Rock and established an office at the Navajo Agency. His salary was increased to $5000 per annum while, in the same year, the Council delegates increased their compensation to $14.00 per day plus $.07 mileage allowance. By 1949 the Council had grown to the point where it was making a greater variety of important decisions than it had ever made in past times and the Chairman of the Council had become a full time officer of the Tribe to whom the Council and the people alike looked for leadership.

In 1952, growth in the responsibility of Tribal Government was reflected in a raise of the Chairman's salary to $7800 per annum, with increase of pe diem allowance for travel from $9.00-$14.00 a day. The Chairman was wel

n his way to becoming a national figure, and was in demand both on and
ff the Reservation; by Navajo and non-Navajo communities and organiza-
ons alike. The Council was convinced that their leader and representative
ould be paid a sufficient salary to make a good appearance in public and
aintain a standard of living commensurate with his position.

Four years later, in 1956, the offices of both Chairman and Vice Chair-
an had become so demanding on these elected officers of the Tribe that
eir salaries were placed on a gradually increasing scale for each year of
eir term in office. The beginning salary of the Chairman was fixed at
9000 per year, increasing to $10,000, $12,000 and $13,500 during the re-
aining years of the term, and established at $15,000 a year for any suc-
eeding 4-year term to which he might be reelected. The salary of the Vice
hairman begins at $7,000 rising to $8,000, $9,000, and $10,000 during the
rst term, and fixed at $11,000 for succeeding terms if the incumbent is
elected. At the same time the compensation of the Council delegates
ose to $32.00 per day, including $20.00 salary and $12.00 per diem.

On May 24, 1949, the Council authorized the hiring of a Tribal Ac-
ountant-Auditor, and in the same year established the appointive office of
ibal Secretary-Treasurer. In 1950 the Tribe developed and approved the
rst Tribal Budget in the amount of $1,217,888. The Budget was authorized
y Section 7 of the Navajo-Hopi Long Range Rehabilitation Act which pro-
ded that "Notwithstanding any other provision of existing law, the tribal
nds now on deposit or hereafter placed to the credit of the Navajo Tribe
Indians in the United States Treasury shall be available for such purposes
may be designated by the Navajo Tribal Council and approved by the
ecretary of the Interior." In August, 1951, the position of Certified Public
ccountant was established in the Tribal Offices to manage the growing
usiness of the Tribe.

In 1950 the Tribal Council approved a revision to its outmoded election
ocedure, including the use of a pictorial ballot, and established Council
ommittees on Administration, Community Services, Engineering, Resources,
oans, and Trading to thus provide effective media for cooperation with
rallel activities in the Bureau of Indian Affairs.

A year later the Council adopted a resolution requiring a minimum of
ur quarterly meetings of that governing body, which had formerly con-
ned only at the call of the General Superintendent of the Navajo Agency
d the Council Chairman.

In 1952 the Tribe contracted with a firm of insurance analysts to ana-
e the insurance requirements posed by the growing mass of Tribal
operty.

In 1954 the number of Tribal employees had increased to such exter
that housing was inadequate to meet the need. The Council therefor
authorized the expenditure of $225,000 for necessary housing constructio

In 1955 the election procedure was again revised and the Tribe assume
full responsibility for the conduct and financing of its own Tribal election
In the same year a procedure was developed to govern enrollment in th
Navajo Tribe and to define eligibility for Tribal membership.

In 1957 the Council established a Tribal Department of Farm and Rang
Management to administer sheep dipping and livestock vaccination pro
grams, fee patent land acquired by the Tribe, the tribal water developmer
program, and other projects formerly the sole responsibility of the Feder
Government, but failed to provide necessary financial support in the 195
Tribal budget. In the same year the Tribe declined to permit the establis
ment of additional National Parks and Monuments on the Navajo Reserv
tion, but acted to authorize a Navajo Tribal Park Commission and th
establishment of Navajo Tribal Parks. Also, in 1957, the Council created
Tribal Department of Community Services to provide even closer particip
tion than before in the fields of education, law enforcement, health an
welfare.

The receipt of over $33 million in oil and gas lease bonus revenues i
1956 led to consideration of a Tribal Long Range Program aimed at pro
viding necessary services and developments which had not been, or wer
not likely to be, developed by the Federal Government. In January 195
the Council approved Part I of the proposed Tribal Long Range Program
appropriating $5,000,000 as a perpetual Tribal Scholarship Trust Fund, fro
which the interest or other proceeds would be available each year for scho
arship grant purposes to worthy Navajo youth, and the appropriation o
$3,000,000 over a 5-year period was authorized for Reservation water de
velopment purposes.

In the post war period the controversy involving control of grazing o
the Reservation range again arose, and the Indian Claims Act, passed b
Congress in 1946, demanded attention by the Navajo Tribe if it wished t
formulate and press its claims before the newly established Indian Claim
Commission. To assist the Tribe in its efforts to temper livestock contro
to develop Navajo claims against the Federal government, to provide advic
and guidance in the conduct of Tribal business, and to assist the Trib
Council in determining and exercising its rights and prerogatives as th
Tribal governing body, a Tribal Attorney was hired in July of 1947. M
Norman M. Littell of Washington, D. C. was selected and authorized by th
Tribal Council to function in the dual capacity of Claims Attorney an
General Counsel.

In October, 1947, Lee Muck, Assistant to the Secretary of the Interior and Utilization) was sent to the Navajo country to survey range conditions nd the Tribal Attorney was no doubt helpful in securing a subsequent moratorium" on stock reduction, with departmental instructions that the razing regulations be revised to encourage greater Tribal participation and esponsibility in the regulation of Reservation range use.

Also, contending that the Navajo Tribe did not receive fair value for elium resources purchased by the Federal Government, the Tribal Attorney rought suit against the United States in the Federal Court of Claims. The ase has not yet been resolved.

In 1956 the General Counsel succeeded in obtaining a decision in the upreme Court of the United States on behalf of 30 Navajos living in South-n Utah. The group had been illegally deprived of property and awarded 100,000 damages by the Federal District Court in Salt Lake City, Utah, a ecision which was subsequently reversed in the United States Court of ppeals in Denver, Colorado. The General Counsel for the Navajo Tribe arried the case to the Supreme Court of the United States which reversed e Court of Appeals and remanded the case to the District Court for re-etermination of damages. As a result, the 30 Navajo claimants were varded a total of $186,000 against the Federal Government; the latter has ow appealed the decision. In additon, the Tribal Attorney has been instru-ental in developing an elaborate Navajo Claims Case for presentation efore the Claims Commission, and with his legal staff, has guided the Tribe assuming and exercising an ever increasing burden of responsibility for e management of its own affairs, in conformity with Bureau policy en-uraging Indian Tribes to take over such management and responsibility as pidly as possible.

The rapid development of Uranium mining on the Reservation after '50 brought with it a new need for legal guidance in the development of ning regulations, the granting of prospecting and mining permits and in her connections. To meet this need the Tribe, in 1953, authorized the osition of Assistant General Counsel to function at Window Rock under e supervision of the General Counsel in Washington, D. C.

Although the legal requirements of Tribal business were adequately et, there remained a need for an attorney to give legal advice and guid-ce to individual Navajos, and to the Judges in the Navajo Courts of In-an Offenses and, in 1953, the Council established the position of Tribal gal Adviser. With reference to improvements in the organization and eration of the Reservation Courts, one of the elected Tribal Judges was signated as Chief Judge and charged with the responsibility for de-loping an efficient Court system. Also, in 1953, the Tribal Council adopted code of traffic regulations patterned after those used by neighboring ates.

In 1955 the steadily mounting tempo of Tribal business made it nece
sary to add another attorney to the legal staff at Window Rock, and th
was accomplished in the form of an Associate Tribal Attorney. The latt
functions under the supervision of the Assistant General Counsel.

During the period 1938-47 the Tribal Council enacted legislation affec
ing the internal affairs of the Tribe, including the outlawing of polygam
the control of marriage, divorce, adoption, etc. However, the early legi
lation was found to be inadequate to meet modern requirements, lackir
either in form or scope and, with the development of a Tribal Legal Depar
ment, much of the previous legislation is being superseded at present
regulations patterned after those of the surrounding States.

With regard to the internal affairs of the Tribe, the following ordinanc
have been enacted in recent times: In 1954 the Council adopted a resoluti
urging enforcement of the Federal American Antiquities Act, to thus prote
from damage objects of archaeological and historical interest on the Re
ervation. In 1955, a resolution was adopted to establish a mine safety cod
providing for closure of unsafe mines. In 1956 the Tribal Council acted
provide for the extradition of criminals from the Reservation, and adopte
an additional ordinance to provide for the exclusion of trespassers and u
desirable persons from the Navajo Country, (for crime, immorality, una
thorized activity, etc.). Also, in 1956, the Tribe adopted an ordinan
regulating tribal marriage in detail, and an act to establish the property a
contractual rights of husband and wife. In the same year, to protect t
Tribal Credit Program, the Council made it a criminal offense to sell, e
cumber or conceal chattels subject to lien, and provided for the executi
of judgments by the Navajo Courts in civil cases.

A year later, in 1957, regulations were adopted for the care, custo
and control of abandoned, neglected and delinquent Navajo children, a
a uniform adoption procedure was established.

In former times marriage, divorce, care of children and similar intern
matters were regulated by Tribal Custom, but with today's rapidly changi
customs and requirements, the old way no longer suffices. As a bridge b
tween the traditional and the non-Navajo laws and regulations governi
human relationships the Navajo Tribe is adopting its own legal controls p
terned after those of its non-Navajo neighbors, but still recognizing requi
ments peculiar to Navajo society. To go from the traditional Navajo to t
formalized legal system developed by Western Society without an int
mediate step would be difficult and frustrating to many of the Nav
people, although ultimate assimilation to national customs and institutio
is the expressed goal of the Tribal Council. The recently adopted legal co
trols over internal affairs is a long step in the direction of such assimi
tion, and not only is it a reflection of progress in that direction, but it

ought with it the need for revision of the Tribal Law and Order Code, the
organization of the Reservation court system and the development of new
urt procedures adapted to present day requirements. Such revision and
organization was authorized by the Council in 1956.

In the field of commerce the Tribe took no action on its own accord to
pply regulations until recent years. In former times the Reservation trading
st system was licensed by the Federal Government as a necessary aspect
the Reservation barter-economy. It was not until 1947 that the Tribal
ouncil began to consider, in their capacity as landlords, the question of
ntrolling Reservation trading to demand payment of rental on areas of
bal lands used for trading purposes, and to establish regulations deemed
cessary for the protection of the Navajo people. Following a period of
ntroversy and negotiation with the trading interests, a set of regulations
nerally acceptable to both the Tribe and the Reservation traders was
pproved in 1955. The regulations provide for a rental based on 1½% of the
oss annual receipts (or a minimum of $300 per annum); they provide for
bal inspection of the books kept by Reservation Traders; they govern the
ansfer of trading property, and limit ownership of multiple trading posts
the interest of free competition and the exclusion of monoply.

During the war years the Vanadium Corporation of America operated
nes on the Navajo Reservation, and after World War II the heavy demand
the part of the Federal Government for uranium led to increased pros-
cting and mining activity on Navajo Tribal land. This fact was reflected
Council action in 1948 to protect the interests of individual Navajos in
nnection with mineral development by authorizing the Advisory Commit-
e to develop necessary Reservation mining procedures. In 1949 the Coun-
acted to amend the mining procedures, and in 1951 the Advisory
mmittee was authorized to draft a set of Reservation mining regulations.
the same year the Council authorized the leasing of a tract of land near
iprock, New Mexico as the site for the first Uranium Processing Mill lo-
ted on the Reservation.

As mining activity in the Navajo Country gained impetus, the Tribe
ted, in 1953, to establish the position of Tribal Mining Engineer. The latter,
arged with the responsibility for inspections of mining and milling opera-
ns and enforcement of mining regulations, also guides the Tribal Council
the development of Reservation mineral resources. In 1955, the Tribal
uncil acted to authorize negotiation of leases for two additional Uranium
cessing Mills, one located near Tuba City, Arizona and the other on the
zona side of the Colorado River near Mexican Hat, Utah.

In July of 1923 a provisional Navajo Council authorized the Secretary
the Interior to lease Reservation lands for oil and gas purposes and these
ources, especially oil, have since provided the funds necessary for the

Bonus bids are opened at the oil and gas lease sale which netted the Navajo Tribe more than $33,000,000 in November, 1956. (Photo by Bill Keenan, Carter Oil Company, Tulsa, Oklahoma.)

ribal development that has come about in recent years. In 1953, the Tribal ouncil granted a right of way across a portion of the Reservation for the onstruction of a gas pipeline by the El Paso Natural Gas Company.

In accordance with regulations of the Department of the Interior tracts f Reservation land requested for lease by oil and gas interests must be dvertised and leased to the highest bidder at a public lease sale. To gain ontrol of desired tracts of tribal land for oil and gas exploration and deelopment purposes, companies have offered cash bonuses ranging from less han a dollar to several thousand dollars (actually $0.05 to $3,100) an acre. he highest bidder normally receives the right to lease the acreage bid upon r the bonus plus a $1.25 per acre annual rental plus 12½% royalty on any il or gas produced.

Convinced that the Reservation area possesses a great oil and gas prouction potential, the Council authorized, in 1955, the retention of a Tribal il and Gas Consultant. Subsequently, the Council adopted a resolution uthorizing the Chairman to withdraw tribal consent for oil and gas leasing, ending study of the report of the Oil and Gas Consultant and, in 1956, ted to authorize a partnership arrangement with an oil company for oil d gas exploration and development. The partnership system for developg this resource requires amendment of departmental bid-lease regulations efore it can be placed in effect, and no action toward such amendment s yet taken place. Under the present bid-lease system the Tribe is assured profit in the form of bonus and rental on leased tracts even if no oil or s is found; if found, the Tribe receives an additional 12½% production yalty. All financial risks are borne by the lessee, and many of the holes illed are unproductive. The value of the Reservation oil and gas resource reflected in the fact that, in November 1956, a total of $33,132,850 was id in bonuses for the lease of only 331,042 acres of Navajo land.[13]

Under the proposed partnership arrangement, the Tribe would receive 50% royalty on oil and gas produced by other than marginally productive lls developed within a designated portion of the Reservation, but would, course, receive no bonus or rental income. Only if oil or gas were disvered in large quantities would the Tribe profit and, if no oil or gas were covered within the designated area involved, the Tribe would lose in the se that other oil companies would not be likely to thereafter offer a nus for the privilege of leasing tracts that had proven to be unproductive. view of these considerations the Department of the Interior, charged with ponsibility for the safeguarding of tribal resources, so far has remained

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It should be pointed out in this connection that, of the total, $24,530,695 was paid in bonuses for only 27,717 acres of **proven** oil land in the Four Corners of Utah, while the remaining $8,602,155 was paid for 303,325 acres of "wild cat" area in New Mexico. The amount received for the "wild cat" acreage more closely approximates the normal bonus receipts than that paid for the proven acreage. Also, added to the totals given above were 1,079 acres of allotted lands in Utah, which brought $548,574.38 in bonuses, plus advance rental on the (tribal) land at $1.25 per acre, or $415,151.25.

unwilling to amend existing regulations and leasing procedures to permit th gamble proposed by the Tribe.[14]

In an effort to reestablish a firm economy on the Reservation durin the post war period, the Council, in 1948, established a $100,000 loan fun to provide credit to Navajos, especially to veterans, for education, busines and other productive purposes.

Later in the same year regulations were developed to govern the Triba Lending Program with provision for collecting overdue loans from delinquen borrowers, and the Tribe filed application for $500,000 of Federal funds t be used for credit purposes in a revolving loan program. The controls prove inadequate to assure necessary collections and, in 1953, it was necessary t temporary close down the program pending collection of accounts due an the formulation of a more effective plan of operation than that develope in 1948. The revised plan was worked out and approved by the Trib Council in 1955, and the credit program was subsequently reopened. Th procurement of credit from commercial sources is encouraged whereve possible, but in some instances lack of acceptable or sufficient collater make it impossible for Navajos residing on the Reservation to obtain cred except from the Tribe itself through the Revolving Loan Program.

In 1955, the Council authorized the establishment of the first Reserv tion Bank at Shiprock, N. M. in the form of a Branch of the 1st Nation Bank of Farmington. In 1956 the Council granted permission to the Valle National Bank of Arizona to conduct a survey to determine the feasibili of establishing a branch somewhere on the Reservation.

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(14) S. 1781, a Bill introduced in the 85th Congress by Senator Barry Goldwater of Arizona, would p mit the Navajo Tribe to lease Tribal land for industrial and other purposes for periods up to years. In addition, the Bill would permit development of Reservation resources by the Tribe wi out following Departmental bid-lease procedures and, of course, would relieve the Secretary the Interior of his responsibilities for the protection of Reservation Resources insofar as gas, and minerals are concerned, and to the extent that the bid-lease system represents a protect device, Section 5 (b) of the Bill provides as follows:

"(b) In order to facilitate the promotion of a self-supporting economy and self-reliant co munity among the members of the Navaho Tribe, the Navaho Tribe, acting by and through Navaho Council, has and shall have the right to prospect, explore, drill, mine and operate and develop, produce, extract, store, treat, refine, and dispose of any and all natural resourc including but not limited to timber, coal, oil and gas, helium, uranium, potash, copper, gold, ir silver, and all other minerals located in, on, or under any lands, restricted or otherwise, owr by, or held in trust for, the Navaho Tribe; and the Navaho Tribe, acting by and through Navaho Tribal Council, has and shall have the right to enter into a contract or contracts with or more persons, firms, corporations, or associations, providing for the prospecting, explori drilling, mining and operating for and developing, producing, extracting, storing, treating, fining, and disposing of any and all such natural resources and minerals, jointly with one more such persons, firms, corporations, or associations, or upon any other basis, and upon s terms, provisions, and conditions which the Navaho Tribal Council shall deem appropriate un the circumstances. Any such activity or activities, or any such contract or contracts provid therefor, do not and shall not require the approval of any department, agency, or official of United States nor shall sections 2103, 2104, 2105, and 2106 of the Revised Statutes of the Uni States apply to any such contract. The power, rights, privileges, and authority announced in section shall be in addition to and cumulative of all powers, rights, privileges, and autho presently conferred by law upon the Navaho Tribe, but all laws or parts of laws in conflict he with are hereby repealed to the extent of such conflict, and no presently existing law or laws sl restrict or prevent the exercise of the powers, rights, privileges, and authority herein announcec the manner provided." (This Bill has not been enacted into law, and probably will not be in original form.)

As long ago as 1942 the Navajo Tribal Council authorized the estab-
hment of the position of Manager of Tribal Industries—at that time a flour
ill, tannery and sawmill. Of these only the Sawmill survived to become a
ourishing industry.

In 1949 a large housing project, built by the War Department to quar-
r workers at the Fort Wingate Ordnance Depot during World War II,
as transferred to the Navajo Tribe to be thereafter operated as a tribal
iterprise, and the Tribe was looking toward development of other enter-
ises to create employment opportunities for Navajo labor. To meet the
ed for industrial development the Advisory Committee, in 1949, was
med as a Business Management Committee, and the Bureau approval of
e Tribe's application for $500,000, to be used for revolving credit pur-
ses, opened the way for enterprise development. In 1950 the Tribe be-
me officially an employer under the Social Security Act and, a year later,
1951, the Tribe borrowed $35,000 from the loan fund for establishment
a concrete block plant and $80,000 for construction of a Motel at Ship-
ck and other small industries followed. In 1952 the Council authorized
e Advisory Committee to negotiate with the Bureau of Indian Affairs a
siness management agreement defining clearly the division of responsibility
tween the Tribe and the Bureau for the establishment and management of
bal Enterprises. The agreement was approved by the Tribe in September
1952 and, the following year, the position of Tribal Business Manager, as
thorized in the Tribe-Bureau agreement, was established.

After a period of experimentation with small tribal enterprises which
led to provide the employment opportunities required, the tribe termin-
ed its Clay Products, Leather Products, Wool Products and Wood Products
lustries in 1955, and, guided by Commissioner Emmons, himself a busi-
ssman, began to look to the establishment of major industries in the
servation area by nationally known companies. In the same year the
uncil appropriated $300,000 for industrial development purposes on or
ar the Reservation, and began to formulate plans for the organization,
ection and operation of Tribal industry. They established, in 1956, an office
industrial development and business management, named an able manager,
d terminated the Tribe-Bureau agreement of 1953, to replace it with a
oader agreement which would more adequately reflect the changed policy
ay from small Tribal enterprises and toward major industries capable of
ploying large numbers of people. Likewise, in 1956, the Council author-
d the establishment of a low cost housing area in Shiprock, New Mexico.

In 1957, the Council delegated its full authority over tribal business
erprises to the Advisory Committee, and authorized a Tax Study of the
vajo Reservation to determine the extent of liability, if any, for certain
es of Reservation taxes imposed or proposed by the States.

For a decade or more the Tribal Sawmill has done well and has grow
to become a thriving business; yet the present milling industry is capable c
utilizing only a portion of the tribal timber resource. The remainder goes t
waste. With this knowledge, in 1950, the Council authorized a timber surve
looking toward the possibility of expanding the Reservation lumber industr
A year later the existing sawmill was enlarged to include kilns for the dryin
of lumber and certain other items of major machinery to thus increase i
efficiency and productivity. In 1953 the timber survey was completed,
master forest management plan was elaborated providing for utilization c
Reservation timber on a sustained yield basis, and the Council appropriate
$32,000 to secure the services of sawmill and timber development consultan
to devise necessary plans for an expanded tribal lumber industry. The co
sultants completed the work and submitted their plans to the Council
March 1957, but final action was deferred for careful study. The plan d
veloped is based on an average annual cut of 34,535,000 board feet for th
remainder of the first cutting cycle—i. e. until about 1978,[15] and recon
mended the construction of a new centralized sawmill at a cost of mo
than $11,000,000 (including cost of log production equipment ($278,30
Manufacturing facilities ($8,047,840) and transportation system ($2,910,000
In addition to the milling plant proper, there would be an additional inves
ment in the development of a modern community at the new mill sit
necessary roads, and other adjuncts.

For many years, as we pointed out in foregoing paragraphs, the Nava
people have struggled with problems involving land status, especially in th
"checkerboard" area of mixed allotted, public domain, railroad, state ar
non-Indian sections in western New Mexico, in areas of Navajo occupanc
in Southern Utah and elsewhere. For this reason among others there was
felt need for the establishment of a tribal office to carry out necessa
research and develop information relating to the land upon which the Nava
people live, for use by the legal and other departments of the tribal orgar
zation in seeking solutions to land problems, and to provide intelligent advic
to the Tribal Council. As a result, in 1954, the Council established an Offic
of Land Use and Surveys and, a year later, adopted a uniform land acqui
tion policy. The latter relates to the consolidation of checkerboard holdin
through exchange or purchase, the addition of grazing lands adjoining th
Reservation through purchase from private owners, the provision of lar
sites for tribal industries, the reduction of crowded living conditions on th
Reservation, etc.

In 1956, in the interest of opening the Reservation area to travel, co
merce and industry, the Council adopted a resolution expressing trib
opposition to the roadless or wilderness areas established by the Departme
of the Interior in the 1930's and, in another act in the same year, the Coun

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(15) Plus 15,000,000 board feet of over mature timber to be cut and processed by the present mill
a 10-year period after the new mill begins work.

rged congressional legislation to provide for consolidation of Navajo land oldings in New Mexico through exchange. In March of 1957 the Council pproved the exchange of a 53,600 acre area of Reservation land in northvestern Arizona as a site for the Glen Canyon Dam, for an equivalent area f land in Southern Utah.

In 1950 a period of severe drouth began in the Southwest, working an dditional hardship on those people who were primarily dependent on .eservation resources. In an effort to alleviate the drouth, the Tribal Council uthorized the use of $10,000 of tribal funds to finance a cloud seeding roject in the hope of producing rain. Although lack of moisture-bearing louds doomed the experiment to failure it stands as monument to the open-iinded, progressive nature of the Navajo Tribe. In cooperation with the ureau of Indian Affairs the Tribe assisted in the hauling of water to Reseration livestock, provided Tribal funds for purchase of supplementary liveock feed, and in 1953, appropriated $250,000 for water development urposes. In subsequent years the Tribe appropriated additional funds for iis purpose, to a total of $1,000,000. And, in 1957 the appropriation of 3,000,000 over a five year period for water development was authorized y the Council as an aspect of long range planning.

In 1953, the Council authorized the establishment of District Grazing ommittees, composed of members of the Tribe, to exercise responsibility connection with all grazing matters, including revision of the Reservation razing regulations, a subject long in controversy. The Grazing Committees orked closely with Bureau Range Technicians to finally develop a set of gulations acceptable to the Secretary of the Interior, and the Council pproved them formally in 1956.

In 1956, continuation of drouth conditions made it necessary to secure id distribute feed grain to stockowners for the subsistance of small family rds (100 or less sheep units). Grain was secured at no cost through the epartment of Agriculture, and the Tribe appropriated $600,000* for puroses of administering the program, including distribution of the emergency ed. The major task of setting up necessary administrative machinery, arnging for unloading and trucking, hiring necessary staff, etc. was accomshed in a few weeks time under the able leadership of the Tribal Secrery-Treasurer.

Although long interested in the possibiliy of a major irrigation project i the area of Shiprock, New Mexico, the Tribal Council became highly tive in this connection in 1950, with passage of the Long Range Act and, i 1951, the Tribe obtained the services of an Engineer to make an indendent study of the proposed Shiprock (Navajo) Project. After 1955, the uncil worked closely with non-Navajo interests in the San Juan Basin in an effort to secure congressional approval of the Upper Colorado Riv Storage Project of which the Reservation development would be a part, a the Tribe made a substantial contribution of money for the support of t Aqualantes, a promotional organization.

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* ditional appropriations brought this amount to $1,200,000 at the end of fiscal year 1957.

Looking toward expansion of irrigation farming in the Shiprock are the Council contracted with a farm management company for the develo ment of a training enterprise on a 1200 acre tract of newly prepared la near Shiprock, on which to train Navajos in modern farming methods. Up completion of the plan, the Tribe acted, in 1956, to establish and finan what is known as the Navajo Farm Training Program.

In the field of education the Tribe has been extremely active, worki toward the objective of universal education for Navajo children, and pa ticipating closely and actively with Bureau and State education personn in planning and carrying out the school program. In addition, the Tri established a Tribal Scholarship program in 1953, and a $5,000,000 perpetu scholarship trust fund in 1957, in the interest of facilitating higher educati for Navajo youth. Also in connection with its program of encouraging ed cation for Navajo children, the Council appropriated $350,000 in 1954 f the purchase of adequate clothing for school children. Since that time Navajo children attending school have been adequately clothed, and su sequent appropriations for this purpose have brought the total to $1,270,0 (as of May 1, 1957).

The recent history of the Navajo Tribe is as interesting as its ancie history. It is the story of a highly adaptable, industrious and progressi people. The Navajo are sometimes characterized as a people who live a plan only for today, with no thought to the future. This might possibly ha been true in traditional society at a time when there was no pressure f adaptive social and economic change, and it may be true of individual N vajos; but it is not true of Navajo leadership in recent years. The Tribe fully aware of the urgent need for change, and is consciously thinking a planning for the future. In lieu of distributing Tribal funds in per capi payments to members of the Tribe, the Navajo are investing these funds development of Reservation resources and in needed community servic The Council wants the development of opportunities for **work** and **soc advancement** for the Navajo, always an industrious, hard working peop not an indolent, hand to mouth existence dependent upon small per capi distributions of tribal money. The Tribal leaders are aware that the distrib tion of the $33,000,000 derived from oil and gas lease bonus sales in 19 would amount to less than $400 per capita if divided amongst the more th 80,000 Navajo people, thus providing little lasting benefit in contrast w a perpetual scholarship program, development of water, timber and oth resources, industrial employment, and similar benefits basic to the achiev ment of a better standard of living. However, popular pressure for a p apita distribution is not lacking, and it may well grow to irresistible proportions if Tribal income remains large in future years.

THE UNITED STATES INDIAN SERVICE

A Sketch of the Development of the Bureau of Indian Affairs and of Indian Policy.(1)

From early colonial times until 1871 the British, the Colonial and later the Unite
States government looked upon Indian Tribes as sovereign nations, to be dealt wit
by treaty or through the medium of a diplomatic service. With their numerical infe
iority in early times, the position of the colonists was precarious and, although an effo
was made to regulate relations between themselves and the Indians in the interest
peace, no attempt was made to govern the internal affairs of the Tribes. Befor
adoption of the United States Constitution, and just after the close of the French an
Indian War, two Superintendencies of Indian Affairs were established, the jurisdictio
of which corresponded to the areas occupied by the Northern and the Southern Colo
nies, respectively. The Superintendents functioned as ambassadors of a foreign powe
charged with the duty of observing events, negotiating treaties and generally mai
taining peaceful relations between the Indians and the border settlers.

As the years passed a transition gradually took place in the course of which th
colonies grew into a nation and the balance of power shifted from the Indians to th
Whites, creating across the years a changing pattern of relationships between the tw
groups. That changing pattern is amply reflected in the development, compositi
and function of the United States Bureau of Indian Affairs, with the varied policie
attitudes and objectives that characterized it in its effort to cope with the eve
changing problem of Indian relationships through the years.

One of he first Acts of the Continental Congress, on July 12, 1775, was to decla
its jurisdiction over Indian tribes by creating three departments of Indian Affairs,
Northern, a Southern and a Middle department, with Commissioners at the head
each charged with duties comparable to those of the earlier Superintendents. The me
first named to these offices were Benjamin Franklin, Patrick Henry and James Wilso
an indication of the importance in which the positions were held.

On August 7, 1786, the Congress of the Confederation established two depar
ments, the Northern — north of the Ohio River and west of the Hudson River, and th
Southern — south of the Ohio River, with a Superintendent at the head of each repor
ing to the Secretary of War. Each of the two Superintendents had the power to gra
licenses to trade and live with the Indians.

On August 7, 1789, the War Department was established, and the subject
Indian Affairs continued as a responsibility of the Secretary of War. The First Co
gress and the First President recognized the need for remedying the problems create
by conflict between Indian and White interests, serious even then, and Congressio
policy was set forth in Article 3 of the Act of August 7, 1789, to the effect that "Th
utmost good faith shall always be observed towards the Indians; their land and pro
erty shall never be taken from them without their consent; and in their property, righ
and liberty, they shall never be invaded or disturbed, unless in just and lawful wa

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(1) Adapted from Handbook of Federal Indian Law by Felix S. Cohen, publ. 1945 by Government Printing Offi
for period to 1935. Chapters 2-4, inclusive.

uthorized by Congress; but laws founded in justice and humanity shall from time to me be made, for preventing wrongs being done to them, and for preserving peace nd friendship with them."(2)

In 1789, the Congress appropriated $20,000 for the purpose of negotiating nd trading with Indian tribes, and in 1790 it passed an Act for the purpose of regu- ating trade and intercourse with Indian tribes. The latter provided for the licensing f Indian Traders, and conferred extensive regulatory powers on the President. During ne period 1796 to 1822 trading houses were maintained under Government ownership or the purpose of supplying Indians with necessary goods at a fair price, and for the urpose of offering a fair price for Indian furs in exchange. The Agents in charge of he trading houses were appointed by the President and were responsible to him. In 806 the office of Superintendent of Indian Trade was established, whose duties in- luded the purchase and charge of all goods intended for trade with the Indian nations.

In 1822 the office of Superintendent of Indian Trade was abolished, and Secretary f War Calhoun created the Bureau of Indian Affairs by order of March 11, 1824, lacing at its head Mr. Thomas L. McKenney, who formerly had been Superintendent

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) Some insight into early frontier attitudes toward, and relationships with, the Indian Tribes is provided by Isaac Weld, Jun., who visited the States and parts of Canada in 1795, 1796 and 1797, and whose letters were published in London in 1807 under the title of "Travels Through the States of North America and the Provinces of Upper and Lower Canada during the years 1795, 1796 and 1797 (pp. 199-201).

"Acceptable presents are generally found very efficacious in conciliating affections of any ncivilized nation: they have very great influence over the minds of the Indians; but to conciliate eir affections to the utmost, presents alone are not sufficient; you must appear to have their interest heart in every respect; you must associate with them; you must treat them as men who are your quals, and in some measure, even adopt their native manners. It was by such steps as these that e French, when they had possession of Canada, gained their favour in such a very eminent manner, nd acquired so wonderful an ascendency over them. The old Indians still say, that they never were happy as when the French had possession of the country; and, indeed, it is a very remarkable fact, hich I before mentioned, that the Indians, if they are sick, if they are hungry, if they want shelter om a storm, or the like, will always go to the houses of the old French settlers in preference to those the British inhabitants. The necessity of treating the Indians with respect and attention is strongly culcated on the minds of the English settlers, and they endeavor to act accordingly; but still they nnot banish wholly from their minds, as the French do, the idea that the Indians are an inferior ce of people to them, to which circumstance is to be attributed the predilection of the Indians r the French rather than them; they all live together, however, on very amicable terms, and many the English on the frontiers have indeed told me, that if they were but half as honest, and as well nducted towards one another as the Indians are toward them, the state of society in the country ould be truly enviable.

On the frontiers of the United States little pains have hitherto been taken by the Government, d no pains by the people to gain the good will of the Indians; and the latter, indeed, instead of specting the Indians as an independent neighbouring nation, have in too many instances violated eir rights as men in the most flagrant manner. The consequence has been, that the people on the ontiers have been involved in all the calamities that they could have suffered from a vengeful and uel enemy. Nightly murders, robberies, massacres, and conflagrations have been common. They rdly ventured to stir, at times, beyond the walls of their little habitations; and for whole nights gether have they been kept on watch, in arms, to resist the onset of the Indians. They have never red to visit their neighbours unarmed, nor to proceed alone, in open daytime on a journey of a w miles. The gazettes of the United States have daily teemed with the shocking accounts of the rbarities committed by the Indians, and volumes would scarcely suffice to tell of the dreadful tale.

It has been said by persons of the States, that the Indians were countenanced in committing the ormities by people on the British frontiers, and liberal abuse has been bestowed on the government r having aided, by distributing amongst them guns, tomahawks, and other hostile weapons. That the dians were incited by presents, and other means, to act against the people of the colonies, during e American War, must be admitted; but that, after peace was concluded, the same line of conduct s pursued toward them, is an aspersion equally false and malicious. To the conduct of the people of Indian Trade. Mr. McKenney's new duties included the administration of the "Ci zation Fund" established by Act of Congress on March 3, 1819, to provide a perr nent annual appropriation of $10,000 for the express purpose of "introducing amo the Indians the habits and arts of civilization." This Act was not repealed until 1873

Between 1824 and 1832, confusion appears to have reigned in the conduct Indian Affairs, but by Act of July 9, 1832, Congress authorized the President appoint a Commissioner of Indian Affairs to manage all matters arising out of Ind relations. He was subject to the direction of the Secretary of War and to regulati prescribed by the President, and in 1834, an Act was passed to provide for the orga zation of a Department of Indian Affairs. This Act provided for the employment Agents, Sub-Agents, Interpreters and other employees, and was, to a large degr a reorganization of the field force of the War Department with relation to Ind Affairs.

The Act of March 3, 1849, established the Home Department of the Interior, the Bureau of Indian Affairs at that time passed from military to civil control. The provided that "the Secretary of the Interior shall exercise the supervisory and appell powers now exercised by the Secretary of the War Department, in relation to all Acts of the Commissioner of Indian Affairs." After 1849 Congress debated for ye whether or not to transfer the Indian Bureau back to the War Department.

In 1869, an effort was made to correct mismanagement in the purchase handling of Indian supplies through the creation of a Board of Indian Commission which was to be appointed by and to report to the President. It was to be compo of not more than 10 men serving without compensation, and was to exercise jo control with the Secretary of the Interior. This board was not abolished until 1933 wh on Executive Order of May 25 was issued to provide that the affairs of the board terminated and that its records, property, and personnel all be transferred to supervision of the Secretary of the Interior. Since that time the Secretary of the Ir rior has supervised public business relating to Indians, the management of Ind Affairs, and all matters arising out of Indian relations.

of the States themselves alone, and to no other cause, is unquestionably to be attributed continuance of the warfare between them and the Indians, after the definitive treaty was sig Instead of them taking the opportunity to reconcile the Indians, as they might easily have done presents, and by treating them with kindness, they still continued hostile toward them; they loo upon them as indeed they still do, merely as wild beasts, that ought to be banished from the of the earth; and actuated by that insatiable spirit of avarice, and that restless and dis-satis turn of mind, which I have so frequently noticed, instead of keeping within their territories, wh millions of acres remained unoccupied, but no part, however, of which could be had without be paid for, they crossed their boundary lines, and fixed themselves in the territory of the Indi without ever previously gaining the consent of these people. The Indians, nice about their bounc line beyond any other nations, perhaps, in the world, to have such extensive dominions in propor to their numbers, made no scruple to attack, to plunder, and even to murder these intruders, w a fit opportunity offered. The whites endeavoured to repel their attacks, and shot them with much unconcern as they would either a wolf or a bear. In their expeditions against the white set the Indians frequently were driven back with loss; but their ill success only urged them to return redoubled fury, and their wellknown revengeful disposition leading them on all occasions to blood for blood, they were not merely satisfied with murdering the whole families of the settlers had wounded or killed their chiefs or warriors, but oftentimes, in order to appease the manes

[3] This was the first general appropriation for the purpose of Indian education, although the Continental Cong on July 12, 1775, appropriated $500 for the education of Indian youth at Dartmouth College, New Hampshire

Mr. Elbert Herring became the first Commissioner of Indian Affairs in 1832, and ring the 123 years ensuing to the present time, the post has been held by about 36 dividuals representing a wide range of variation in their outlook upon the responsibili- es of that office. To a great extent their views, as set forth in their official and un- ficial writings, express the ups and downs of our own history of national expansion, well as the variations in policy developed and applied over more than a century in r attempts to solve changing Indian problems. The Indian Service began as a diplo- atic service to manage negotiations between the United States Government and the dian tribes, the latter considered as domestic dependent nations, and by a gradual ocess of jurisdictional aggrandizement on the one hand and voluntary surrender of ibal powers on the other, the Indian Service reached a point at which nearly every pect of Indian life was subject to the almost uncontrolled discretion of its officials. nly in recent years has this approach to the administration of Indian Affairs under- one radical change.

The reports of the Commissioners of Indian Affairs from the time at which the reau was established to the present provide a graphic account of changing policies, d provide an excellent commentary on the attitudes and philosophies of the Ameri- n people relative to Indian problems from 1825 to the present. In 1825 Mr. Thomas McKenney, as head of the Office of Indian Affairs, wrote to the effect that it was e policy of the Government to guarantee "lasting and undisturbed possession" of w lands in the Indian country beyond the boundaries of Missouri and Arkansas to ose Indians whose land titles had been extinguished and who had decided to move estward in an attempt to re-establish themselves rather than try to stand against the de of White expansion. This was a period when our nation was growing, and when hite men were seeking new lands beyond the frontiers — lands to which Indian oups had formerly held title, in many instances by treaty. The Indians were induced, various means to relinquish their lands and move westward, and under Jacksonian licy the Government relied heavily on the use of the military to accomplish removal those who elected not to do so voluntarily.

Educational policy of the period was aimed at the "civilization" of the Indian, gely through manual training, agriculture and "the mechanic arts." As early as 26, the head of the Indian Bureau urged an increased appropriation for Indian edu- tion in the belief that increased school facilities would ultimately be more effective an the military in achieving the objectives of a peaceful relationship with the Indian. wever, effective education and the bodily removal of entire Indian tribes from their ditional home land did not always stand in a complimentary relationship to each ner.

In 1851, Commissioner Luke Lea wrote to the effect that "on the general subject the civilization of the Indians, many and diversified opinions have been put forth;

ir comrades, they crossed their boundary line in turn, and committed most dreadful depredations ongst the peaceful white inhabitants in the States, who were in no manner implicated in the ill- nduct of the men who had encroached upon the Indian territories. Here also, if they happened be repulsed, or to lose a friend, they returned to seek fresh revenge; and as it seldom happened t they did escape without loss, their excesses and barbarities, instead of diminishing, were becoming ater every year. The attention of the government was at last directed towards the melancholy ation of the settlers on the frontier, and the result was, that Congress determined that an army uld be raised, at the expense of the States, to repel the foe."

but, unfortunately, like the race to which they relate, they are too wild to be of muc utility. The great question, how shall the Indians be civilized, yet remains without satisfactory answer. The magnitude of the subject, and the manifold difficulties i separably connected with it, seem to have bewildered the minds of those who hav attempted to give it the most thorough investigation."

Commissioner Lea went on to point out that he believed that the civilization of th Indian should provide for "their concentration, their domestication and their ultima incorporation into the great body of our citizen population."

As the economic requirements of the White population grew the land holdings c the Indian tribes were reduced to Reservations, and the latter gradually shrank in si as the westward expansion of our new nation progressed. White men, interested intensive agricultural use of the land, could not see the justification of Indian tenure c large areas for purposes of hunting and small scale farming. Consequently, Commi sioner Lea felt that it would be preferable to concentrate Indian tribes to facilitate th assimilatory process to which he referred as "civilization." His recommendation th Indians be ultimately incorporated into the citizenry of the country was a marked d parture from the previous policy of removal and segregation.

Domestication of Indians was accepted as a part of our policy when, in 185 Commisisoner Manypenny objected to the practice of permitting Indian tribes retain portions of their Tribal domain as Reservations after selling or otherwise r linquishing a major part. He said, "with but few exceptions, the Indians were oppose to selling any part of their lands, as announced in their replies to the speeches of th Commissioner. Finally, however, many Tribes expressed their willingness to sell, but c the condition that they could retain Tribal Reservations on their present tracts of land He was of the opinion that, rather than retain Tribal Reservations, the Indians shou take up individual farms and thus become "domesticated." No consideration w given to the fact that many such groups had not been traditionally conditioned by the own ways of life to facilitate easy transition to an existence patterned after that of th White farmer. At first, the stream of White migration had been content to push th Indian before it, but by 1850 it had begun to bypass him, surrounding and engulfin him. The practice of removal and resettlement of Indian tribes on Reservations beyor the frontier was rapidly becoming impractical, a fact which only intensified th question of what to do about the Indian. Further, as the White men swarmed wes ward, the conviction grew, on the part of the American public, that lands previous reserved to Tribes that had removed themselves from territory formerly held in th east, should be whittled down to a size commensurate with the actual needs of th group. "Reservations should be restricted so as to contain only sufficient land to affor them a comfortable support by actual cultivation," wrote Commissioner Denver 1857, "and should be properly divided and assigned to them, with the obligation remain upon and cultivate the same."

Up to the Civil War period, the national policy in dealing with Indian tribes w based on treaty, with the Tribes considered as independent nations.(4) Howeve during and after the Civil War this policy was replaced with one based on the premi that Indians are objects of national charity and without legal rights. Writing in 186 cretary of the Interior Caleb B. Smith pointed out that Indian tribes have none of e elements of nationality, and that they reside within an area under the jurisdiction the United States. "The rapid progress of civilization upon this continent will not rmit the lands which are required for cultivation to be surrendered to savage tribes hunting grounds," he stated. "Indeed, whatever may be the theory, the Govern- ent has always demanded the removal of the Indians when their lands were required agricultural purposes by advancing settlements. Although the consent of the dians has been obtained in the form of treaties, it is well known that they have elded to a necessity to which they could not resist. A radical change in the mode treatment of the Indians should, in my judgement, be adopted. Instead of being eated as independent nations they should be regarded as wards of the Government, titled to its fostering care and protection. Suitable districts of country should be signed to them for their homes, and the Government should supply them, through its vn Agents, with such articles as they use, until they can be instructed to earn their bsistence by their labor."

During the period from 1863 to 1876, Indians were in the process of being estab- hed on Western Reservations, and the Commissioners turned their attention to oblems of permanent policy and administration. The main question in connection ith Indian affairs centered about the advisability of continued treaty making, the roper role of the military, reorganization of the Indian Bureau, development of a eans for individualizing and controlling the Indian, and the question of the present ghts and the future prospects of the conquered people. The system of treaty making as abandoned in 1871, and was replaced by a system of agreements between the overnment and the Indians. It was urged that even these be discarded since, in any instances, Tribal government had completely broken down. Indeed, under the udding policy of paternalism, power and authority had passed to the Agents sent control the various groups, and to care for them as wards of the Government, with result that Tribes no longer possessed many of the characteristics of independent olitical entities. Confined to their Reservations, the Indians were rapidly becoming most totally dependent upon the Government, and that paternalistic relationship as being fostered as an answer to the problem of what to do with our Indian minori- es. Where Indians did not immediately show themselves inclined to accept the pa- rnalistic relationship between themselves and the Government, use of the military was metimes advocated. In fact, in 1873, Commissioner Edward P. Smith urged that oops be made available on the Sioux Reservations "to enable the Agents to enforce spect for their authority, and to conduct Agency affairs in an orderly manner." And is in the face of a treaty with the Sioux in which the United States had agreed to nd no troops beyond the Reservation line.

The first treaty between the United States and an Indian Tribe was that concluded with the Delaware Indians on September 17, 1778 (7 Stats., 13).

The Act of March 3, 1871 (16 Stats., 556) provides in part: "That hereafter no Indian Nation or Tribe within the territory of the United States shall be acknowledged or recognized as an independent nation, tribe or power with whom the United States may contract by treaty: PROVIDED FURTHER, that nothing herein contained shall be construed to invalidate or impair the obligations of any treaty heretofore lawfully made and ratified with any such Indian Nation or Tribe.

With regard to the status of Indian treaties, the Supreme Court held them to be substantially of no greater force or effect than an Act of Congress. In the case of Lone Wolf v. Hitchcock (187 U. S., 566) the Court held that: "The power exists to abrogate the provisions of an Indian treaty, though presumably such power will be exercised only when circumstances arise which will not only justify the Government in disregarding the stipulations of the treaty, but may demand, in the interest of the country and the Indians themselves, that it should do so. When, therefore, treaties were entered into between the United States and a tribe of Indians it was never doubted that the power to abrogate existed in Congress, and that in a contingency such power might be availed of from considerations of government policy, particularly if consistent with perfect good faith oward the Indians." (From Bulletin 12, Office of Indian Affairs, 1926 reprint, "The American Indian and Gov- ernment Indian Administration," by Assistant Commissioner Edgar B. Merritt.)

When the Indian was established on one of the Reservations his movements wer confined to that area, but insofar as posisble he could retain his traditional way c life. He could retain the religious, linguistic, and other cultural characteristics tha served to distinguish him, but often he found it impossible to gain his livelihood afte the traditional pattern. The hunting tribes of the Great Plains, for example, could n longer follow the herds of buffalo. As a result the Government found it necessary t feed the Indian populations on many Reservations to prevent their starvation an preclude the possibility of rebellion. The Indians of course soon came to be depender upon direct relief and, in the words of a contemporary, "seeing no future for them selves in the area to which they had been relegated, they passed their time in idle ness. Many knew nothing of agriculture, and the old economic base had been extin guished with such suddenness that they did not have the time necessary for gradua adjustment to the changed environment. For obvious reasons the weak and impoter tribes received the least, while those groups that still possessed a war potential wer the most generously appeased.

In 1872, after the so called "feeding" policy had been in effect for about thre years, Commissioner of Indian Affairs Walker defended it and defended the Reserva tion system by pointing out that "there is no question of national dignity, be it remem bered, involved in the treatment of savages by civilized powers. With wild men, as wit wild beasts, the question of whether in a given situation one shall fight, coax, or rur is a question merely of what is easiest and safest." He discussed further the functio of the Reservation to the effect that "the Indians should be made as comfortable o and as uncomfortable off, their Reservations as it was in the power of the Governmen to make them, that such of them as went right should be protected and fed, and suc as went wrong should be harassed and scourged without intermission. Such a use c the strong arm of the Government is not war, but discipline."

Traditional land tenure on the part of Indian groups was not based on individua ownership of specific tracts of land. More generally, Indians occupied areas of lan as tribal entities, holding or controlling the areas in common. When such tribes wer settled on reservations, they continued to utilize the land in common. On the othe hand, the White men, feeling a pride in individual ownership, and being historicall conditioned to intensive, individual agricultural pursuit as a basic way of life, wer convinced that the Indian could not be "civilized" until he too came to share that prid of individual ownership, and adopted intensive cultivation of the soil as a basic wa of living. The belief was held that the Indian should be "individualized" as rapidly a possible through a process of allotment of the Reservation lands in severalty, to thu break up the communally held Reservations into individual holdings. This techniqu for "individualization" of the Indian allowed, as a by-product, a considerable amoun of surplus land in many instances, available for other purposes after Indian applicant on the Reservations had received their individual allotments. In fact, the reduction o Indian Reservations gained momentum to such an extent that, in the year 1890 alone more than 17,400,000 acres, or about 1/7th of all remaining Indian land, was acquire by the Federal Government. The process of breaking up the reservations was justifie on the basis that those areas had originally been given to the Indians to meet thei needs as non-agricultural peoples, and that they no longer required such large areas i view of the emphasis being placed on intensive agriculture.

The problem of the consolidation and sale of surplus lands on Reservations had lready appeared in 1872. Commissioner Walker stated that "the Reservations granted eretofore have been generally proportioned, and rightly so, to the needs of the ndians in a roving state, with hunting and fishing as their chief means of subsistence, hich condition implies the occupation of a territory far exceeding what could possibly e cultivated. As they change to agriculture, however rude and primitive at first, hey tend to contract the limits of actual occupation. With proper administrative nanagement the portions thus rendered available for cessation or sale can be so hrown together as in no way to impair the integrity of the Reservation. Where this hange has taken place, there can be no question of the expediency of such sale or ession. The Indian Office has always favored this course, and notwithstanding the omewhat questionable character of some of the resulting transactions, arising espeially out of violent or fraudulent combinations to prevent a fair sale, it can be confilently affirmed that the advantage of the Indians has generally been subserved hereby."

However, despite the magnitude of the Indian problem, for many years the Govrnment had sought to economize by providing very low salaries for Indian Service ersonnel, and very small appropriations for Education and other services. In 1882, ommissioner Price urged that the Government pay the salaries necessary to attract apable men to the Administration of Indian Affairs. "Paying a man as Indian Agent 1200 to $1500, and expecting him to perform $3,000 to $4,000 worth of labor, is not conomy," the Commissioner pointed out, "and in a large number of cases it has roven to be the worst kind of extravagance." In the same report Mr. Price speaks f education to the effect that "if one million dollars for educational purposes given ow will save several million in the future, it is wise economy to give that million at nce, and not dole it out in small sums that do but little good."

Writing in 1881, Commissioner Hiram Price, a business man, expressed a viewpoint uite counter to that expressed by most of his predecessors in terms of educational hilosophy, and one which is remindful of a period a half century later. Commissioner rice said "It is as common a belief that the boarding should supersede the day school s it is that training schools remote from the Indian country ought to be substituted r those located in the midst of the Indian. But I trust that the time is not far distant hen a system of district schools will be established in Indian settlements which will rve not only as centers of enlightenment for those neighborhoods, but will give suitble employment to returned students, especially the young women, for whom it is pecially difficult to provide."

The General Allotment Act became law on February 7, 1887 and, as we menoned above, a great deal of Indian land was soon lost. Even in those times there ere men who opposed the Act on the ground that allotments might be forced upon any Indians before they were ready for such a drastic change. Actually, the abortive tempt at "individualization" through the process of allotment fell far short of achievg the purpose for which it was conceived.

In 1889, Commissioner Morgan set forth several points of policy to the effect at (1) The Reservation system belongs to the past, (2) Indians must be absorbed into r national life, not as Indians, but as American citizens, (3) The Indian must be "individualized" and treated as an individual by the Government, (4) The Indian mu "conform to the White man's ways, peaceably if they will, forceably if they must (5) The Indian must be prepared for the new order through a system of compulso education, and (6) The traditional society of Indian groups must be broken up.

In 1905 Commissioner Leupp pointed up the need for education as a means severing the individual Indian from his Tribe, and from the Government, and settin him upon his own feet. Manual training was the basis of Commissioner Leupp's polic with enough of the "three R's" to get by.

Allotments to individual Indians were made in such a manner that the allottee w prevented from alienating the land during a 25-year trust period, at the end of whi time he was to receive a patent in fee. However, an Act of 1906 empowered t Secretary of the Interior to issue a patent in fee before the end of the trust peri if the Indian applicant was shown to be competent. Each application for a pate had to be considered on its own merits and on the basis of a report from the Agen Superintendent concerned. However, during the first three years following passa of the law, more than half of the recipients of patents sold their land and spent t proceeds, leaving themselves destitute. To correct the situation and safeguard t Indian land base, a policy was introduced by Commissioner Valentine in 1911 where more rigid proof of "competency" was required. To provide the necessary pro competency commissions were established and Superintendents were asked to subm lists of all Indians of one-half or less Indian blood who were able bodied and menta competent. It had been proposed to immediately grant patents in fee to all su individuals, and to persons of more than one-half Indian blood provided they we adjudged competent. This policy was hailed as a new era in Indian administratio "It means that the competent Indian will no longer be treated as half ward and h citizen. It means reduced appropriations by the Government and more self respe and independence for the Indian. It means the ultimate absorption of the Indian ra into the body politic of the nation. It means, in short, the beginning of the end the Indian problem." In those terms Cato Sells, Commissioner of Indian Affairs 1917, eulogized the new policy.

Following the first world war there was a reversal in the policy of issuing pate in fee to anyone of one-half or less Indian blood without further proof of competen and a more rigid system was introduced.

Commissioner Burke, in his report dated 1922, stressed the need for educatio He observed that "probably States should ultimately assume complete responsibili for the Indians within their borders, but pending that time there is much to be do by the Federal Service." Under Commissioner Burke an industrial survey of all Rese vations was inaugurated. This survey was the forerunner of a more comprehensi study to be undertaken a few years later for the purpose of developing for ea Reservation a definite program, adapted to meet the specific requirements of t group, and designed to make each of the Tribes self supporting. It was a great d parture from the previous system of extending a single general policy over all Indi Tribes regardless of whether or not it fit their needs and circumstances.

During the period 1926-28 the Institute for Government Research carried o a survey of social and economic conditions of the Indians, commonly known as "T Meriam Report," after Lewis Meriam, the technical director of the survey staff. T nvestigators described what they found on the many Reservations, analyzed prevailing policy in terms of their findings, and made positive recommendations which were basic to the new Indian policy that was to follow. Among other things, they stressed the need for a realistic educational program adapted to the problems of Reservation life, the need for sustained and coordinated economic planning and development, the need for more carefully chosen, better paid personnel, the strengthening of community life, and clarification of the law and order function on Indian Reservations.

Prevailing policy at the time of the Meriam Survey, in connection with Education, was predicated on the premise that the advancement of Indian groups could be best accelerated by removing the Indian child from his home environment, breaking his ties with his family, and educating him in a boarding school where only English would be spoken, and where the child might receive instruction in the three R's and in manual training. The Meriam Committee found that the school day in most such boarding schools was theoretically devoted half to academic studies and half to manual training. However, in many instances, the "manual training" was found to be actually composed of institutional labor. By utilizing small children to do the more less heavy work of gardening, kitchen work, janitorial labor, etc., and by paying extremely low salaries to the school staff, it was possible to operate such institutions on a very low budget.(5) They described teaching methods as antiquated, mechanistic and of a type which had been generally discarded years before in public school systems. It was their conviction that, although the boarding schools might impart some modicum of knowledge in terms of the three R's, they failed to educate in the broader sense of preparing the Indian child for his place in the society in which he would be expected to live. Further, the Meriam Committee expressed the opinion that the boarding schools as they found them denied the established role of the family in the developmnt of personality, and ignored the necessity on the part of the child for parental guidance and affection. They found the general policy and objectives of Indian Education to be those of attempted "de-indianization" through severance from family and reservation environment. The survey then recommended that children be educated in day schools located within the communities in which they lived in order that they might benefit from a more normal home life, and in order that the schools could thus reach beyond the child to influence the life and thinking of the total community.

[5] The Act of April 30, 1908 (35 Stats., 72) limited the per capita cost of boarding schools to $167 per year and this limitation was not relaxed until 1918. In 1926 the per capita cost was $225 per year, and in 1932 this allowance was raised to $345 for schools of 200 or less enrollment and $300 if the enrollment exceeded 500 and later $50.00 additional was allowed for all pupils in grades above the sixth. At present, in 1955, the allowance for Community Boarding Schools on the Navajo Reservation averages $705, while that for the larger Boarding Schools averages $835. This increase in per capita allowance eliminates the parsimony and the need which characterized the Boarding Schools of less than a half century ago, to depend on the children for a large part of the necessary institutional labor; and it vastly improves diet and other opportunities for modern Boarding School children. In fact, one of the explicit justifications for raising the allowance in 1932 was stated as "the employment of labor to relieve children of excessive institutional drudgery." (From "Indian Administration Since July 1, 1929," by Commissioner of Indian Affairs C. S. Rhoads and Ass't Commissioner J. Henry Scattergood.)

The Meriam Report, published in 1928, provides some insight into the Boarding Schools of less than 30 years ago. On page 327 the survey committee states that "The average allowance for food per capita is approximately eleven cents a day, exclusive of the value of food secured from the school farm. * * * Malnutrition was evident. They (the pupils) were indolent and when they had the chance to play, they merely sat around on the ground, showing no exuberance of healthy youth."

Further, and with reference to institutional labor, the Meriam Committee stated on page 375 of their report "If the labor of the Boarding Schools is to be done by the pupils, it is essential that the pupils be old enough and strong enough to do institutional work * * * The institutional work has to be done, in part at least, by very small children * * * children, moreover, who according to competent medical opinion, are malnourished. * * * In nearly every Boarding School one will find children ten, eleven and twelve spending four hours a day in more or less heavy industrial work * * dairying, kitchen work, laundry, shop. The work is bad for children of this age, especially children not physically well nourished; most of it is in no sense educational, since the operations are large scale and bear little relation to either home or industrial life outside * * * At present the half day plan is felt to be necessary not because it can be defended on health or educational grounds, but because the small amount of money allowed for food and clothes makes it necessary to use child labor.

Accordingly, in 1932 Commissioner Rhoads reflected the new trend in thinking when he observed that "the most significant feature of the year in Indian education was a determined effort to make the change from boarding school attendance to local day or public school attendance for Indian children." A year later Commissioner John Collier indicated that, in connection with education, his policy would be one of aiming at a "redistribution of educational opportunity for Indians, out of the concentrated boarding school reaching the few and into the day school reaching the many. The boarding schools which remain must be specialized along lines of occupational needs of children of the older groups, or along those of the need of some Indian children for institutional care. The day schools must be worked out on lines of community service, reaching the adult as well as the child, and influencing the health, the recreation, and the economic welfare of their local area."

The Meriam Survey had described the tragic results of the allotment system whereby Tribal groups lost so much of their land base, and the investigators found a great deal of sentiment expressed by the Indians themselves in favor of continued wardship on the part of the Federal Government. In connection with Indian lands, Commissioner Collier said that "the allotment system has enormously cut down the Indian land holdings and has rendered many areas, still owned by Indians, practically unavailable for Indian use. The system must be revised both as a matter of law and practical effect. Allotted lands must be consolidated into Tribal or corporate ownership with individual tenure, and new lands must be acquired for the 90,000 Indians who are landless at the present time. A modern system of financial credit must be instituted to enable the Indians to use their own natural resources. And training in the modern techniques of land use must be supplied Indians. The wastage of Indian lands through erosion must be checked." Commissioner Collier's social and economic policies were, to a large degree, formally incorporated into the Indian Reorganization Act which became law on June 18, 1934.

From 1922 on the emphasis on education as a basis for solution of Indian social and economic problems grew, and the policy of exclusive control of Indian affairs by the Federal Government declined. In his 1928 report, Commissioner Burke stated that "It is hoped that closer cooperation may be established between states having Indian populations and the Federal Government in dealing with questions of education, health and law enforcement."

Five years later, with reference to reorganization of the Indian Service, Commissioner Collier, in his 1933 report, expressed the view that "a decentralizing of administrative routine must be progressively attempted. The special functions of Indian Service must be integrated with one another and with Indian life, in terms of local areas and of local groups of Indians. An enlarged responsibility must be vested in the Superintendents of reservations and beyond them, or concurrently, in the Indians themselves. This reorganization is in part dependent on the revision of the land allotment system; and in part it is dependent on the steady development of cooperative relations between the Indian Service as a Federal Agency, on the one hand, and the states, counties, school districts, and other local units of government on the other hand."

In 1940 Mr. Joseph C. McCaskell, an Assistant Commissioner summed up the trend in Indian administration in a paper entitled "The Cessation of Monopolistic Control of Indians by the Indian Office" with the statement that ". . . we see the Indian Office divesting its authority into three directions; first among other Agencies of the Federal Government which have specialized services to render; second among the local state and county governments, which are much more closely associated with the problems in some areas than Washington can be; and finally among the tribal governments which have organized governing bodies, and which expect eventually to take over and manage all of the affairs of Indians. Perhaps thus, but not at once, it may be found possible to cease special treatment, special protective and beneficial legislation for the Indians, and they shall become self-supporting, self managing, and self-directing communities within our national citizenry."

The new stress was against uniformity of policy and planning and in the direction of a maximum of local adaptation, both of method and goal. It was the beginning of an approach to Indian policy and planning based on the premise that each Tribe presents special problems which cannot be successfully attacked and solved through a general plan applied universally to all Indian groups.

Following World War II pressure for the decentralization of Indian administration and the spreading of functions formerly held by the Indian Office grew to include many State and Federal agencies not previously concerned, including State Departments of Public Welfare, State Departments of Public Instruction, the U. S. Department of Agriculture, the State courts, etc. It was a stormy transition period leading to the development of a policy aimed at the elimination of the Bureau of Indian Affairs.

In an address before the Western Governors' Conference at Phoenix, Arizona, on December 9, 1952, Commissioner Dillon S. Myer emphasized the fact that by Act of Congress in 1924, and by prior actions in previous years, all Indians in the United States were declared to be citizens and that, in accordance with the 14th Amendment to the Federal Constitution, they were therefore citizens, not only of the United States, but also of the states in which they reside.(8) Commissioner Myer pointed to the fact that the emphasis in Bureau policy and planning was on health, education and welfare services, with these three activities accounting for 60% of all Bureau employees, and on resources management which accounted for 16% of all employees.

Through the Johnson-O'Malley Act of 1934, which authorized the transfer of Federally appropriated funds to State and local agencies for services rendered, Bureau contracts with State Department of Public Instruction and with school districts were made. In 1952 there were 52,000 Indian youngsters in public schools, and 31,000

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[8] The act in reference was approved on June 2, 1924 (43 Stats., 253) and provides: "That all noncitizen Indians born within the territorial limits of the United States be, and they are hereby, declared to be citizens of the United States: PROVIDED, that the granting of such citizenship shall not in any manner impair or otherwise affect the right of any Indian to tribal or other property."

It is noteworthy that, prior to the passage of the Act in reference above, two thirds of the Indians in the United States were already citizens, pursuant to Acts previously passed by the Congress, including the General Allotment Act of February 8, 1887 (24 Stats., 388), as amended by the Burke Act of May 8, 1906 (34 Stats., 182); by the Act of August 9, 1888; the Act of November 6, 1919 (41 Stats., 350) affecting honorably discharged Indian servicemen of World War I; the Act of March 3, 1901, (31 Stats., 1447) conferring citizenship on all Indians of the Five Civilized Tribes of Oklahoma; and the Act of March 3, 1921 (41 Stats., 1250) with relation to the Osage Indians. In a decision involving the U. S. Vs. Nice (241 U. S., 598), the Supreme Court of the United States held that "Citizenship is not incompatible with tribal existence or continued guardianship, and so may be conferred without completely emancipating the Indians or placing them beyond the reach of congressional regulations adopted for their protection. (Op. Cit. (3))

of these were in schools receiving some supplemental assistance from federal funds. At the same time plans were going ahead rapidly for the transfer of additional Indian Service schools to local state school districts for operation. Commissioner Myer pointed to reduction of Indian Service hospitals in a number of areas through use of community and private hospital services, reduction of the Bureau's welfare services through the Social Security Act and the State Welfare Departments, and a start was made toward the transfer of agricultural extension, soil and moisture conservation, credit programs and road maintenance from the Bureau to other federal or to state agencies.

Congress urged, and the Bureau of Indian Affairs was looking toward, its eventual elimination through effective planning and programming. "We believe," Mr. Myer stated, "that the services now rendered by the Bureau of Indian Affairs can be transferred, step by step, either to the Indians themselves if the service involves handling their own economic affairs, or to other governmental agencies if it is the type of service normally rendered by government to citizens generally. This programming must be carried on in close cooperation with the Indians, both as individuals and as groups, as well as with responsible representatives of other governmental agencies — mainly state and local."

Commissioner Myer emphasized the policy of transfer to other agencies and organizations of services provided by the Bureau wherever and whenever such other agencies were equipped to provide those services as cheaply and efficiently as the Bureau. However, he stressed the fact that such transfer is not a simple mechanical process, and stated that "The kind of programming that is essential for further progress in this field is not a simple process and should not be taken lightly. It involves a thoroughgoing analysis of the problems both as they relate to functions and as they relate to individual bands, tribes and groups of Indians inhabiting specific geographic areas. Only after a thoroughgoing inventory and analysis of all problems are we ready to discuss how these problems might be solved and how certain responsibilities may be transferred from the Bureau of Indian Affairs to the Indians or to other governmental agencies."

During Commissioner Myer's administration, agreements were reached with more than 43 bands and groups of Indians in western Oregon and with 115 identifiable bands and groups in California looking toward termination of Federal responsibilities and services as provided through the Bureau. Also, an overall inventory of problems as they relate to over 200 different Indian bands, tribes or groups was completed as a guide to withdrawal programming. These problems included the heirship status of some 18,000,000 acres of allotted lands and those of managing tribal lands of which there are some 38,000,000 acres, much of it sub-marginal in quality. Poverty of many Indian groups and lack of health, educational and other training opportunities were also taken into account in withdrawal planning.

"It is a mistake to think of all Indians as an agricultural people," Commissioner Myers said. "Some are interested in agricultural pursuits while others would like to follow other vocations. Unfortunately we have not provided adequate opportunity for them to prepare for other vocations. ***Because of lack of education, lack of communications, language difficulties, and limited association with non-Indians, many Indians are afraid of the outside world."

Commissioner Myer advocated the initiation of a large scale training program in cooperation with state and private Vocational schools to prepare Indian workers to take advantage of employment opportunities through relocation, and thus raise the living standards of surplus Indian population. As an alternative to such a program, he saw the necessity for indefinite subsidy by the Federal or state governments in social and welfare services on the crowded reservations.

For those who chose to remain on the Reservations Commissioner Myer saw the need for their social, economic and political development to raise reservation standards and to prepare them for leadership and intelligent cooperation with the Bureau in the development and execution of plans for the ownership, organization and management of their individual and group resources.

He advocated the step by step transfer to county and state agencies of those community services and governmental functions currently carried on by the Bureau, and stressed the point that "you cannot have trusteeship without paternalism *** We are faced with this dilemma. On the one hand, we are trying to encourage Indian individuals and groups to take over responsibility in the management of their own affairs; and on the other we are saddled with the tremendous responsibility of protecting Indian properties — a responsibility which has been vested in the Government not only by law, but as a result of many treaty commitments made down through the years. *** If the job of eliminating the need for the Bureau of Indian Affairs is to be done with honor, and in a manner that will inspire pride, we must concentrate on the difficult job of factual analysis and constructive programming. As we approach the task, let us bear in mind that treaties must not be broken and agreements must not be set aside, and that many obligations which have been assumed and which are not a part of treaties should be discharged before the final closing of the doors. I am thinking especially of the completion of irrigation projects in order to safeguard Indian water rights which now exist, as well as to develop good land resources to the point of greatest productivity. I am also thinking of completion of needed Indian road projects before they are turned over to the county and state Governments; and working out the transfer of responsibiliy for health, educational and other social services in a manner that will assure the continuation of these services to Indians on a basis of full equality with other American citizens."([7])

In August, 1953, the 83rd Congress passed House Concurrent Resolution 108, establishing formally a policy of gradual elimination of Federal trusteeship and of the special services provided by the Bureau of Indian Affairs to Indians. The Resolution in reference provided that "It is the policy of Congress, as rapidly as possible, to make the Indians within the territorial limits of the United States subject to the same laws and entitled to the same privileges and responsibilities as are applicable to other citizens of the United States, to end their status as wards of the United States, and to grant them all the rights and prerogatives pertaining to American citizenship."

Withdrawal programming and the newly formulated policy of the Federal Government sent a wave of apprehension through many Indian Tribes, especially those

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From address by Commissioner of Indian Affairs Dillon S. Meyer, before the Western Governors' Conference—Phoenix, Arizona, December 9, 1952.

who were most immediately concerned. Many groups, not yet prepared for life in a competitive society felt that their security was threatened and made their sentiments heard. They feared that actions jeopardizing their future, if not their very survival, might be prematurely taken, by Congress, and in some tribes there developed cleavages with factions that favored and factions that opposed termination of Federal wardship.

Shortly after his appointment as head of the Bureau of Indian Affairs, Commissioner Glenn L. Emmons personally visited Indians throughout the United States and Alaska. He reassured Indian groups everywhere that programming by the Bureau would be determined on the basis of individual Tribal and regional need, and that every opportunity would be afforded to them for consultation and close participation in all aspects of program planning affecting them. In fact, those aspects of policy were formally set forth in a letter of September 2, 1953, from President Dwight D. Eisenhower to the Commissioner, and the latter read the presidential letter to groups he visited in order to fully reassure them.

"***One thing that has impressed me above all others is the tremendous complexity and diversity of (Indian Affairs)," Commissioner Emmons said.([8]) "I have realized for many years, of course, that there are a large number of Indian groups throughout the country who are quite different from the tribes which I have known more intimately in the area around Gallup. But I find that these differences are even more substantial than I had suspected. I am now more convinced than ever that you cannot apply the same yardstick to the more than 200 Tribal groups throughout the United States. Each Tribe has its own customs and traditions, its own set of problems, its own type of organization, its own past history of relations with the Federal Government, its own ideas about its future development. All of these things and many others will have to be carefully considered before we decide on a course of action with respect to any particular tribal group. *** Some of the broad outlines of Indian policy, of course, have been pretty well established. What we are trying to achieve essentially, as I see it, is a condition of parity or equality for the Indian people as compared with the rest of the population. This does not mean that we are expecting Indians to give up their own culture and be just like everyone else. But it does mean that we want to give the Indians the same opportunities for advancement — the same freedom and responsibility in the management of their properties — as other American citizens. *** I know that there are some Tribes which are ready and anxious to take over full responsibility for their own affairs at the earliest possible time, and that others will have to move along toward that objective much more slowly and gradually. *** I recognize that in many areas there is a real need for a continuation of the trusteeship and will be for several years. While I cannot, of course, guarantee that your government will always accept your recommendations on the termination of trusteeship, I can and do pledge that each tribal group will be fully consulted by the Bureau of Indian Affairs before we take any final action in recommending a termination program to Congress. *** In the meantime, however, we shall be continuing in our efforts to transfer our service responsibilities in the field of health, education, welfare and similar fields wherever possible to the agencies which normally provide these services for other citizens. I am greatly encouraged by the progress which has been made in placing Indian children in the public schools of the country, and I hope we can speed up and broaden our efforts in this direction. We should also be able to make similar progress eventually in health, welfare, law enforcement, road maintenance,

[8] Address delivered to Indian Tribal groups visited by Commissioner G. L. Emmons, Sept.-Oct., 1953.

The new Gallup Dormitory, completed in the summer of 1955.

Classroom scene, Navajo children in the Gallup Public School.

agricultural extension, and home demonstration work, and along other lines. Every transfer of this kind which we make to a local agency is another step toward the day when the Indian people will be able to move forward without further restrictions or special services from the Federal Government."

Under Commissioner Emmons the Bureau has indeed moved forward in the solution of many basic Indian problems. Heavy stress has been laid on education as an essential prerequisite to successful preparation of Indian Tribes for management of their own affairs and for the attainment of better economic and social standards. The progress made in the past two years toward the provision of universal educational opportunities for Navajo children is a primary example of the accelerated progress being made toward that objective. As a direct answer to economic problems confronting Indian groups, Commissioner Emmons is broadening the Relocation program and has begun the work of developing industrial employment opportunities to utilize Indian manpower by promoting the cooperation of Indian Tribes, and neighboring towns in attracting industrial developments to such towns as well as to the Reservations themselves. Progress has been made in the transfer of agricultural extension services and law and order functions in some areas from the Bureau to the States and counties.

Commissioner Emmons looks forward to an increasing assumption of initiative and responsibility by the Indians for the management of their own personal and triba affairs; a steady narrowing of the scope of Federal responsibility and activity in the Indian field; and a broadening and deepening of the part played by the States and their political subdivisions. However, although the Commissioner stresses as a primary objective the well-being and economic advancement of the Indian people as a prerequisite to full independence, he at the same time emphasizes the necessity for attaining those objectives in a humanitarian way and with broadly sympathetic understanding. "I intend to make this (humanitarianism and understanding) the keynote in my administration of Indian Affairs and to stress it not only in the Washington office of the Bureau but in all of our field offices and agencies," he stated.([9])

In retrospect, the history of the Office of Indian Affairs is a reflection of the development of our nation from colonial times to the present. Originally a specia diplomatic service designed for the maintenance of peaceful relations between the struggling colonies and the powerful Indian Tribes surrounding them, it later became an intermediary between the Federal Government and the Tribes in the acquisition of new lands and in the problems attendant upon voluntary or forced emigration of the Indians westward. Both the demand for national expansion and the humanitarian desire to save the Indian from annihilation are reflected in the policy and practices of the past.

As the settlement of western lands shrank Tribal resources and destroyed traditional bases of livelihood, the Bureau of Indian Affairs became the dispenser of charity on the reservations to prevent starvation and to exercise the duties of trusteeship assumed by the Federal Government toward its Indian wards. From a beginning in which the Bureau treated Indian Tribes as sovereign powers it rapidly became a potent factor in their internal affairs. In fact, the Bureau all but supplanted traditional Triba organization with the personal government of politically appointed agents during the utocratic phase of its development. During the period of paternalism Bureau policy nd planning ignored the cultural and other distinctions that applied to the many ndian groups and presumed to solve Indian problems by the imposition of a uniform rogram in relation to all Tribes.

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[9] Address by Commissioner of Indian Affairs Glenn L. Emmons—Phoenix Press Club Forum—October 28, 1953.

Generally speaking, the policies, plans, procedures and attitudes adapted to the ircumstances and motivations of one period were carried over to succeeding periods, nd most of the vast array of more than 8,922(10) laws, regulations, legal opinions and he like developed to regulate or facilitate Indian administration, especially during the utocratic phase of Bureau policy, remain in force to the present day. Even during the eight of the paternalistic era there was pressure for the elimination of charity as the asis for survival of reservation Indians, and the institution of a program of education nd resource development aimed at making the Indian people self-supporting. Pres- ures for the overthrow of the policy of paternalism culminated in the passage of the ndian Reorganization Act of 1934, under the terms of which Indian tribes gained the ower of approval or veto over the disposition of all tribal assets; they were authorized o take over control of their own resources as rapidly as they could develop the leader- hip necessary to the direction of their own affairs; they were given the right to employ egal counsel, the right to negotiate with federal, state and local governments, and he right to be advised of all appropriation estimates affecting them before such stimates were submitted to the Bureau of the Budget and Congress. They were also ssisted and encouraged in the development of representative tribal governments nder tribal constitutions as an aspect of their reorganization.

In succeeding years the realization grew that the land base available to many ndian groups is insufficient in extent or quality to support the total population, and nodern policy stresses diversification of their economy with a view to providing for ne attainment of decent living standards independently of reservaton resources, at east for surplus population. Today, as education, training, relocation and reservation esource development combine to improve the opportunities and living standards of ndians, and as services become available to them from sources outside the Indian ureau, the Federal Government is looking toward the day when the Bureau of Indian ffairs will no longer be required either to act as an intermediary with the Tribes or provide the community and other services formerly lacking from regular State and ounty sources. The emphasis is not on the Indian as an object of national charity, but s a citizen of the United States. We are not only striving to bring the Indian to a atus of parity and equality with his fellow citizens, as Commissioner Emmons has xpressed it, but through the Indian Claims Commission we are trying to right some f the historical wrongs suffered at the hands of our ancestors.

President Jefferson, in one of his messages to Congress probably came close to recasting the future of our Indian minorities when he said, "In truth, the ultimate oint of rest and happiness for them (the Indians) is to let our settlements and theirs eet and blend together, to intermix and become one people. Incorporating them- elves with us as citizens of the United States is what the natural process of things will ring on; it is better to promote than retard it. It is better for them to be identified ith us and preserved in the occupation of their lands than to be exposed to the dan- ers of being a separate people."

With reference to that body of laws, regulations, treaties, legal opinions, agreements, charters, constitutions and allied legal documents accumulated prior to July 1, 1940.

POSTSCRIPT

Under date of April 12, 1956, Commissioner Emmons issued a memorandum entitled "Programming for Indian Social and Economic Improvement," addressed to all Area Directors and Superintendents, in which h spelled out in detail the mechanics and procedures to be utilized in th implementation of his over-all policy.

"In this memorandum," Mr. Emmons stated, "I desire to impress upo Agency and Area personnel the need to come to grips with the basic long range problems in each tribal situation which presently impede the betterment of the Indians' economic status and living standards, hamper th provision of full educational opportunities for their children, and obstruct th improvement of their health conditions. It is not enough for us to go o from day to day just providing certain services and carrying out our trus responsibilities. We must sit down with the Indian people and reach common understanding and mutual agreement upon the means and method for their reaching the stage where they will have developed the self-relianc necessary to conduct their personal affairs with the same degree of independence as other American citizens.

"To implement this, I am herewith placing the major responsibility upo the Bureau field personnel to assume the initiative in this broad field of programming with Indian groups. Herein are discussed the salient points o policy and procedures to offer some guidelines for your operations. It is requested that all members of Area and Agency staffs be fully briefed on it contents; that it be made available to any and all Indian groups, and tha copies thereof likewise be made available to any interested official of th state or local subdivisions thereof.

"Fundamentally, I wish to emphasize the importance of developin forward-looking programs, in written form, through the consultation proces at each of the tribal jurisdictions. By the term "consultation process" I mea making a sincere and sympathetic effort to formulate and establish the interests and aims of the Indian people through the process of providing the with a complete and unhampered opportunity for an expression and development of their views and giving the fullest possible consideration to th desires and objectives of each tribe, group, or band. In those cases wher there are good and compelling reasons for not developing a program whic complies with the tribal request or recommendations, it means explainin carefully and clearly just what those reasons are and why, from the Government standpoint, these differences seem to be important.

"Cooperatively with the Indian people we are essentially seeking

(1) To make a careful analysis of reservation populations, their probable increase, their needs, and their potentialities.

(2)To accurately inventory physical resources and possibilities for thei

improvement for the purpose of determining the number of people for whom these resources can provide a decent living.

(3) With the cooperation of the Public Health Service to secure adequate health coverage to reduce wasted human resources.

(4) To provide through local and state educational systems, as well as directly through Bureau operated programs, adequate educational opportunities in basic and vocational fields benefiting the beginners through adults.

(5) Specific training and guidance programs to develop greater self-reliance and to equip Indians to adjust to a competitive economic society.

(6) Improvement and conservation of physical resources.

(7) Development of supplementary sources of income through establishment of payrolls on or near reservations.

(8) To advise Indians of the economic opportunities available to them and to give adequate assistance within the limits of available appropriations to all desiring to seek these opportunities.

(9) Gradual assumption of functions performed by the Bureau either by the Indians themselves or as appropriate by agencies of the local, state, or Federal government.

"A good program is tailor-made to the needs, circumstances, and aspira-
ons of particular groups and their individual members. There is no specific
rmula which will apply to all Indian groups. A good program is one which
sults from the desires of and fits the needs of a particular group of Indians.
whole or in part the program should, if possible, be the work of the Indians
emselves. A good program is always one which involves state and local
presentatives as active participants in its making. State universities and
ther institutions and organizations are able and often willing to assist in
chnical planning problems.

'I emphasize the important thing is for each group to have as a goal,
ith or without legislation, the development of the group to the point where,
om a realistic point of view, special services or assistance because of Indian
atus will no longer be necessary."

He firmly placed primary responsibility for Programming at the Agency
vel, stressing the point that "Every Superintendent's major work lies in the
velopment and application of basic programs for the tribes or groups
der his supervision."

The Commissioner urged the closest possible working relationship be-
veen the Superintendent and the Tribe, stressing the need for adequate
mmunications with the Indian people. "The people must be kept informed
nstantly of what their representatives are doing, as well as being drawn
to the process of program-making itself."

CENSUS

Despite improvements in census techniques in recent years, figures relating t Navajo population must be partially estimated. Several tables of census data ar provided herewith, based on records maintained by the Navajo Agency Censu Office, on school census and on data collected by the Bureau of the Census wit regard to persons found to be resident on Indian reservations on April 1, 1950. Detailed information on the 1950 statistics is available in a pamphlet published by th Bureau of Indian Affairs in June 1955, entitled "Resident Population on Indian Reservations," and in a companion document, "Indian Population of Continental Unite States: 1950."

The latter document points out certain outstanding differences between the India and white population, including the following:

1. The median age of reservation Indians (18.8 years) is nearly 10 years lowe than that of rural whites in the United States (28.2 years).

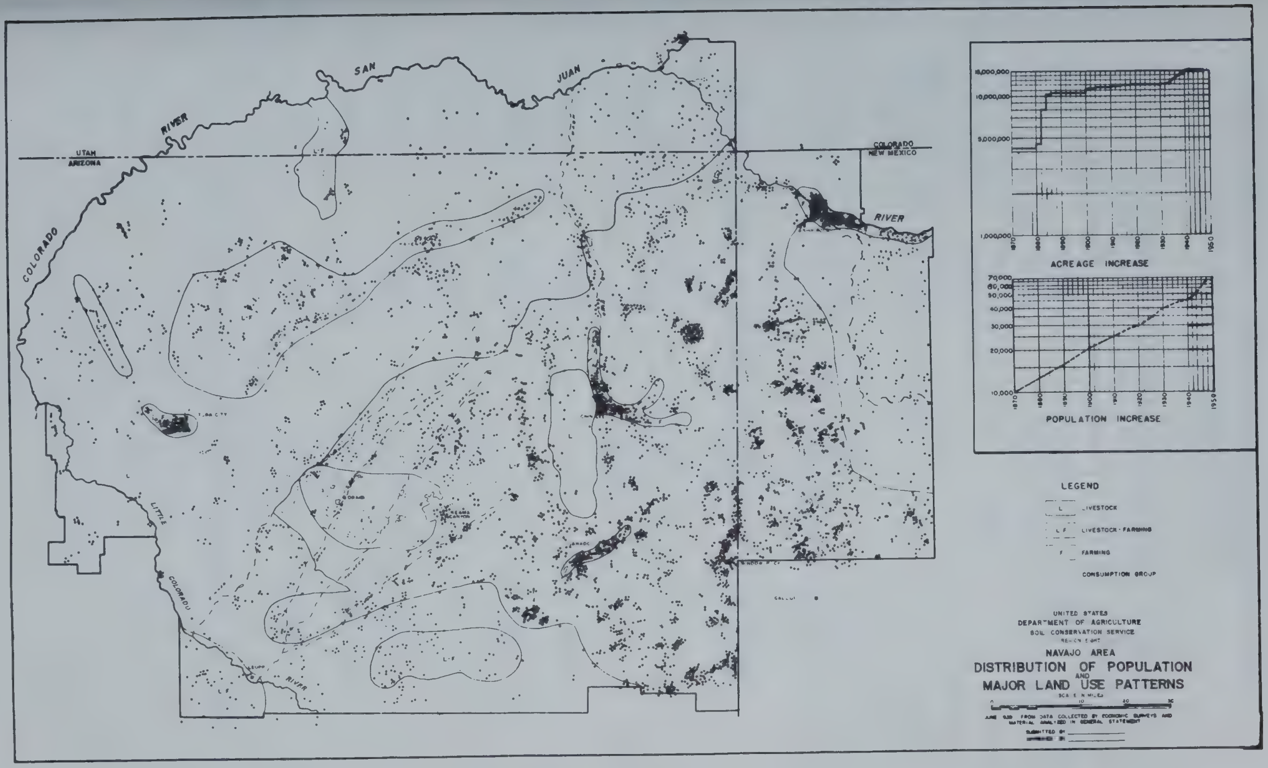
2. The percentage of total Indian population in the United States under 2 years of age is 50.8 (53.5% with respect to Reservation Indians in the Western State whereas over one half of the general U. S. population is over 30 years of age.

Navajo population is estimated to be increasing annually at a rate of about 2.2 percent.(1) This rate of increase is used to estimate Navajo population between th census years. Thus, on the premise that the population on the Navajo Reservation i 1954 was about 78,000 the estimated population in 1955 is nearly 80,000.(2) In 195 an estimated 7,000 Navajos were living outside the Reservation at census time, an in 1955 an indeterminate number of Navajos was permanently settled outside th Reservation.

It is of interest to note that, of a total Navajo population of 19,975 reported o the basis of the 1930 census for the Fort Defiance and Tuba City Agencies, 55% were shown in the age group 1 year or less to 19, inclusive. The total population o the two Agencies in reference was 51.3% male and 48.7% female.

(1) The U. S. Public Health Service uses 2.3% as the rate of increase.

(2) The U. S. Public Health Service uses a population estimate of almost 76,000 for 1954, and 77,300 for 1955. Th latter figure is used as the current base for computing vital statistics rates.


SAN
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ACREAGE INCREASE
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L-F LIVESTOCK - FARMING
F FARMING
CONSUMPTION GROUP
SCALE IN MILES
0
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SUBMITTED BY ____
APPROVED BY ____

UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
REGION EIGHT

NAVAJO AREA

DISTRIBUTION OF POPULATION
AND
MAJOR LAND USE PATTERNS

JUNE 1939 FROM DATA COLLECTED BY ECONOMIC SURVEYS AND
MATERIAL ANALYZED IN GENERAL STATEMENT

NAVAJO POPULATION, BASED ON 1950 CENSUS COUNT AND 1957 ESTIMATE[1]

ate and County	1950	1957 Estimate	State and County	1950	1957 Estimat
w Mexico (Total) . . .	(22,830)	(26,669)	Arizona (Total)	(37,861)	(44,241
McKinley	13,406	15,665	Apache	20,293	23,712
San Juan	8,758	10,233	Navajo	8,568	10,012
Sandoval	598	698	Coconino	9,000	10,516
Rio Arriba	43	45	Utah (Total)	(1,476)	(1,725
Valencia	25	28	San Juan	1,476	1,725
			Estimated Off-Reservation	7,000	10,785
RAND TOTAL				69,167	83,420

) The number of Navajos shown in 1957 is an estimate based on the assumption that the populatio increases at the rate of 2.25% per annum.

NAVAJO-HOPI HEALTH SERVICE BENEFICIARIES[1]

	1950	1955
Navajo: Total	**62,170**	**77,300**
Arizona	37,110	46,150
New Mexico	23,440	29,140
Utah	1,620	2,010
Hopi: Total	**4,830**	**4,400**
Arizona	4,830	4,400

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1) Public Health Service estimate of health service beneficiary population.

INDIAN POPULATION OF ARIZONA

BY RESERVATION

(From Census of 1950) (1)

ESERVATION	Resident Population	Area Sq. Miles	Population Per Square Mile
Colorado River Agency:			
Colorado River Res.	1,336	389	3.4
Havasupai	368	54	6.8
Hualapai	300	1,549	0.2
Yavapai	115	....	..
Other	51	38	1.3
Fort Apache	3,003	2,613	1.2
Hopi	4,011	986	4.1
Navajo	32,838	16,895	1.9
Pima Agency:			
Fort McDowell	192	39	4.9
Gila River	4,423	581	7.6
Maricopa	141	34	4.1
Salt River	1,162	73	15.9
San Carlos	3,136	2,569	1.2
Papago	4,468	4,445	1.0
Kaibab	63	188	0.3
Rest of State	11,293		
Totals	66,900	30,453	

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[1] dapted from Table 4, "Indian Population of Continental United States: 1950," Publ. in mimeo. by BIA.

INDIAN POPULATION OF NEW MEXICO BY RESERVATION

(From Census of 1950) (1)

RESERVATION	Resident Population	Area Sq. Miles	Population Per Square Mi
Ute Mountain	18	168	0.1
Jicarilla	929	1,165	0.8
Mescalero	854	741	1.2
Navajo	20,714	5,550	3.7
Acoma	1,385	387	3.6
Alamo (Navajo)	311	32	9.7
Canoncito (Navajo)	360	91	4.0
Cochiti	289	38	7.6
Isleta	1,062	321	3.3
Jemez	788	70	11.3
Laguna	1,638	671	2.4
Nambe	84	32	2.6
Picuris	98	27	3.6
Pojoaque	2	21	0.1
Sandia	153	37	4.1
San Felipe	721	93	7.8
San Ildefonso	152	40	3.8
San Juan	324	25	13.0
Santa Ana	284	35	8.1
Santa Clara	501	71	7.1
Santo Domingo	978	103	9.5
Taos	842	74	11.4
Tesuque	145	27	5.4
Zia	254	97	2.6
Zuni	2,564	628	4.1
Rest of State	8,050		
Totals	43,500	10,544	

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[1] From "Indian Population of Continental United States: 1950," Table I, Publ. in mimeo. by BIA.

COMPARISON OF NAVAJO AGE GROUPS AS SHOWN IN CENSUSES OF 1864-1915

Census - December 31, 1864 - Fort Sumner(1)

Age-Group	No. Males	No. Females	Total M&F	% Total Pop.
Infants	134	288	422	5
5 - 18	1525	1418	2943	35
19 - 50	2129	2187	4316	52
50 - Over	300	373	673	8
TOTAL	4088	4266	8354	100

Census - 1915 - Southern Navajo Reservation(2)

Age-Group	No. Males	No. Females	Total M&F	% Total Pop.
1 - 4	1042	1106	2148	18
5 - 18	2325	2433	4758	40
19 - 50	1971	2175	4146	35
50 - Over	431	432	863	7
TOTAL	5769	6146	11915	100

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(1) Condition of The Indian Tribes - Report of the Joint Special Committee, GPO, 1867 (P. 264). The small correspondence in percentages of persons shown in the several age groups in 1864, with the percentages shown in 1915 no doubt reflects the fact that a great deal more "guesswork" regarding age was involved in 1864 than was the case in 1915.

(2) Census Of The Navajo Reservation Under Jurisdiction of Peter Paquette, 1915. The census figures refer only to the Southern Navajo (Fort Defiance) jurisdiction.

COMPARABLE NAVAJO AGE GROUPS AS SHOWN BY CENSUSES OF 1910-1950

	CENSUS OF 1910(1)				CENSUS OF 1950(2)			
Age Group	No. Males	No. Females	Total M&F	% Total Pop.	No. Males	No. Females	Total M&F	% Total Pop.
1 - 9 Yrs.	3917	3741	7658	34	10582	10512	21094	33
10 - 14 Yrs.	1552	1465	3017	13	4535	4126	8661	13
15 - 19 Yrs.	1255	1244	2499	11	3403	3619	7022	11
20 - 24 Yrs.	854	916	1770	8	2703	2973	5676	9
25 - 34 Yrs.	1313	1430	2743	12	3699	3861	7560	12
35 - 44 Yrs.	1118	1070	2188	10	2733	2735	5468	9
45 - 64 Yrs.	900	777	1677	7	3384	2775	6159	10
65 - Over	437	466	903	4	1405	1229	2634	4
TOTAL	11346	11109	22455	100(3)	32444	31830	64274	100(3)

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(1) Indian Population In The United States and Alaska, GPO, 1910. (2) 1950 U. S. Census - Non-White Population by Race - Special Report P-E No. 38, GPO, 1953. (3) Expressed in nearest round number.

COMPARABLE NAVAJO AGE GROUPINGS AS SHOWN IN THREE CENSUSES 1930-1915

	1930(1)				1930(1)				1915(2)				
	Western Navajo Reservation				Southern Navajo Reservation					Southern Navajo Reservation			
Age Group	No. Males	No. Females	Total M&F	% Total Pop.	No. Males	No. Females	Total M&F	% Total Pop.	Age Group	No. Males	No. Females	Total M&F	% Total Pop.
Under 1 Yr.	18	27	45	1	145	163	308	2					
1 - 3	216	213	429	10	769	720	1489	9	1 - 4	1042	1106	2148	18
4 - 9	447	433	880	21	1546	1411	2957	19	5 - 9	992	1017	2009	17
10 - 19	460	460	920	22	1979	1991	3970	25	10-19	1429	1547	2976	25
20 - 29	344	394	738	18	1443	1411	2854	18	20-30	903	1080	1983	17
30 - 39	207	184	391	9	903	836	1739	11	31-40	577	583	1160	10
40 - 49	145	114	269	7	587	504	1091	7	41-50	395	381	776	7
50 - 59	85	82	167	4	394	307	701	4	51-60	170	186	356	3
60 - 69	50	48	98	2	240	209	449	3	61-70	158	150	308	3
70 - 79	22	22	44	1	83	85	168	1	71-80	67	64	131	1
80 - 89	20	9	29	.07	41	41	82	.05	81-90	33	26	59	.05
90-over	10	7	17	.04	24	14	38	.02	91-100	2	6	8	.006
Unknown	48	30	78	2	23	11	34	.02	111	1	0	1	
TOTAL	2072	2023	4095	100(3)	8177	7703	15880	100(3)		5769	6146	11915	100(3)

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(1) As listed in Survey of Conditions of the Indians in the United States, Part 18, GPO, 1932.

(2) Census Of The Navajo Reservation Under Jurisdiction of Peter Paquette, 15. (The Southern or Fort Defiance Jurisdiction).

(3) Expressed to nearest round number.

NUMBER AND PERCENT ESTIMATED TOTAL POPULATION IN 1-18 YEAR RANGE BY AGE GROUPS—1955-58

YEAR - NUMBER - % TOTAL POPULATION

	(2) 1955		(2) 1957		(3) 1958	
Age Group	Number	% Total Population	Number	% Total Population	Estimated Number	Based on % Total Population By Age Group In 1957
1 - 5 years	14, 250	17.8	17, 735	21.3	18, 163	(21.3)
6 - 18 years	27, 752	34.8	29, 585	35.5	30, 272	(35.5)
1 - 18 years	42, 002	52.5	44, 653	53.5	45, 622	(53.5)
Estimated Total Population	79, 790		83, 400		85, 276	

(1) Comparison of annual Navajo School Census figures for individual, year by year, age groups within the 1 - 18 year range shows great variation, although figures developed on the basis of combinations of several annual groups appear to be more uniform. It is not yet possible to develope projections of school age population increase by comparison of two successive annual school censuses because of problems involved in enumeration that are only now being resolved.

(2) From Navajo Agency School Census.

(3) A tentative projection of school age and other age groups based on proportions apparently obtaining in the 1957 school census, and upon a uniform population increase of approximately 2.25% per annum. The school age population seems to increase at the rate of about 2.3% per year.

AGE GROUPS WITHIN NAVAJO POPULATION
COMPARATIVE—U. S. CENSUS 1950—NAVAJO AGENCY SCHOOL CENSUS

	(1) 1950		(2) 1955		(2) 1956		(2) 1957	
AGE GROUP	Number	% Total Population	Number	% Total Population	Number	% Total Population	Number	% Total Population
1-4 inclusive	10, 934	17%	11, 791	14. 7	13, 784	16. 9	14, 938	17. 9
5-9 inclusive	10, 160	15. 8	12, 272	15. 3	13, 452	16. 5	13, 942	16. 7
10 - 14 "	8, 661	13. 5	10, 159	12. 7	10, 515	12. 9	10, 681	12. 8

(1) 1950 U. S. Census, Special Report P-E No. 3B, Non-White Population by Race.

(2) Navajo Agency School Census.

ESTIMATED NAVAJO VOTE—U. S. GENERAL ELECTION 1956—NEW MEXICO[1]

Location of Precincts	Total Navajo and Non-Navajo Voter Registration	Total Number of Ballots Cast by Navajo and Non-Navajo Voters	Estimated No. Navajos Voting	Estimated % Total Vote Cast by Navajos
McKinley County				
Gallup	2, 705	1, 915	140	7
Mentmore	417	258	150	58
Wingate	236	182	125	69
Thoreau	1, 135	738	500	68
Ramah	144	122	50	41
Rehoboth	686	488	400	82
Tohatchi	766	417	400	96
Crownpoint	431	318	250	79
Hospah	210	83	50	60
Cousins	487	350	325	93
Gamerco	350	230	125	54
Sub-Total	7, 567	5, 101	2, 515	49
San Juan County				
Kirtland	627	428	200	47
Bloomfield	686	517	150	29
Shiprock	1, 078	656	325	50
Chaco	217	106	80	75
Toadlena	685	438	350	80
Farmington	721	454	100	22
Sub-Total	4, 014	2, 599	1, 205	46
GRAND TOTAL	11, 581	7, 700	3, 720	48

(1) From estimates prepared in the Office of the Tribal Chairman by Mr. Larry Moore.

ESTIMATED NAVAJO VOTE—U. S. GENERAL ELECTION 1956—ARIZONA[1]

Location Of Precincts	Total Navajo and Non-Navajo Voter Registration	Total Number of Ballots Cast by Navajo and Non-Navajo Voters	Estimated Number of Navajos Voting	Estimated % Total Vote Cast By Navajos
APACHE COUNTY				
Dennehotso	3	0	0	0
Sweetwater	0	0	0	0
Rough Rock	0	0	0	0
Lukachukai	66	48	40	83
Salina	18	8	5	63
Chinle	147	113	75	66
Ganado	296	177	100	56
Ft. Defiance	237	133	75	56
St. Michaels	178	147	75	51
Puerco	242	184	100	54
Lupton	89	52	25	48
Sub-Total	1, 276	862	495	57
NAVAJO COUNTY				
Kayenta	92	65	50	77
Keams Canyon	124	93	40	43
Teastoh	46	35	20	57
Sub-Total	262	193	110	57

ESTIMATED NAVAJO VOTE—U. S. GENERAL ELECTION
1956—ARIZONA[1]

(continued from page 1)

Location of Precincts	Total Navajo and Non-Navajo Voter Registration	Total Number of Ballots Cast by Navajo and Non-Navajo Voters	Estimated Number of Navajos Voting	Estimated % Total Vote Cast By Navajos
COCONINO COUNTY				
Tuba City	179	115	60	52
Red Lake	29	13	10	77
Leupp	65	47	25	53
Cameron	68	37	15	41
Canyon Diablo	54	46	10	22
Bellemont	138	115	60	52
Marble Canyon	33	21	5	24
Sub-Total	566	394	185	47
GRAND TOTAL	2, 104	1, 449	790	55

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(1) From estimates prepared in the Office of the Tribal Chairman by Mr. Larry Moore.

HEALTH

The tables in this section of the Appendix were prepared by the Program Analysis Branch staff of the PHS Division of Indian Health in Albuquerque, New Mexico. The first four tables deal with hospital patient load statistics, admissions, length of stay, newborn census, and outpatient services at hospital clinics and health centers. The experience of 1956 and a portion of 1957 is shown, with comparisons for selected previous years.

Statistical data in the remaining tables deal with morbidity and vital statistics among the Navajos, showing cases and rates, compared with rates for the U. S. general population. Several tables highlight causes of illness and death. Although health conditions are improving, as indicated by the decline in death rates, particularly for tuberculosis, there are grave deficiencies, as evidenced by a high infant mortality rate and deaths caused by influenza and pneumonia, the enteric diseases, and accidents.

Tuberculosis and other communicable diseases, now generally under control for the general population, are still among the major causes of illness The promotion of sanitary practices, health education services, maternal and child health supervision and modern measures and therapy are aimed to reduce excessive morbidity.

The population estimates used as the basis for computing mortality and morbidity rates for 1952-1954 are the same as published in previous Navajo Yearbooks. The estimated population for 1955 is 77,300 and 79,300 fo 1956. Morbidity and mortality statistics are obtained from the Annua Health Statistical reports compiled by the Health Area Office. The 1956 calendar year report on deaths is provisional and reflects data in death certificates on file with the Navajo Agency Office. No adjustment is made for incomplete reporting. Final figures are pending official statistics pub lished by the National Office of Vital Statistics. Statistics for the total U. S population were obtained from official monthly publications and annua summaries, published by the National Office of Vital Statistics, and are cited for single calendar years. Navajo statistics, by cause of illness, death etc., generally are calculated on data for 3-year periods.

HOSPITALS CONSTRUCTED SINCE 1889

Navajo

Location	Date Built	No. & Type of Beds General	TBC	Orthoped.	Present Status	Remarks
Fort Wingate	1889	35	..	..	Closed 1946	
Leupp	1929	29	..	..	Closed 1943	
Shiprock*	1908	41	..	..	Operating	Replaced in 1915; new 75 bed Hosp. authorized 1950
Tuba City	1911	6	..	..	Used as quarters	Replaced 1928 and 1954
Tuba City	1928	24	..	..	Operating	Increased to 48 bed in 1930
Tuba City	1954	75	..	..	Operating	New, 75 bed
Fort Defiance	1912	..	93	..	Operating	Built as a hospital; enlarged 1929—Tbc. San. since 1939
Fort Defiance	1939	115	..	..	Operating	Navajo Medical Center
Crownpoint	1914	32	..	..	......	Replaced in 1939
Crownpoint	1939	36	..	20	Operating	
Toadlena	1926	20	..	..	Closed 1944	
Kayenta	1929	50	47	..	Closed 1944	
Tohatchi	1927	16	..	..	Closed 1946	Operating as Health Center
Chinle	1932	16	..	..	Closed 1950	Operating as Health Center
Winslow	1933	38	35	..	Operating	
Keams Canyon	1913	35	..	..	Operating	Primarily Hopi, but serves Navajo also.

* Funds for planning appropriated in 1954; funds for construction appropriated in 1955.

NAVAJO MEDICAL-HEALTH STAFF

TYPE PERSONNEL	NUMBER 1950	1954	1955
Medical Officers	16	17	23
Dental Officers	4	6	8
Nurses (hospital)	62	60	64
Nurses (Public Health)	8	20	24
Sanitarians	2	6	9
Other	208	234	308
TOTAL	300	343	436

P.H.S. INDIAN HOSPITALS
STATISTICAL SUMMARY—FISCAL YEAR 1956

FACILITY	Avail-able Beds a/	Patients Other Than Newborn			Hospital Newborn			
		Ad-missions	Average Daily Census	Average Stay Per Admission	Available Bassinets	Admissions	Average Daily Census	Average Stay
TOTAL	437	7, 128	301. 1		56	1, 315	18.0	5.0
Total-General	344	6, 962	212.0	11. 1	56	1, 315	18.0	5.0
Total-Tuberculosis	93	166	89. 1	196. 5	-	-	-	-
Crownpoint b/ - Gen.	56	1, 104	36. 9	12. 2	10	173	1.9	3. 9
Fort Defiance - Gen.	115	1, 921	73.0	13. 9	17	433	7. 7	6. 5
Tbc.	93	166	89. 1	196. 5	-	-	-	-
Shiprock - - - Gen.	41	1, 504	29. 9	7. 3	6	256	2. 7	3. 8
Tuba City - - Gen.	75	1, 602	47. 0	10. 7	15	288	3. 8	4. 9
Winslow b/- - Gen.	57	831	25. 3	11. 1	8	165	2. 1	4. 7
Intermountain Boarding School Infirmary, Brigham City, Utah	28	522	12. 6	8. 8	-	-	-	-

a/ Number of beds calculated on 80 sq. ft. of floor space for each bed.
b/ Data for Orthopedic Patients included with General.

Prepared by:
P. H. S. Division of Indian Health
Albuquerque Area Office
Program Analysis Branch
May 1957

HOSPITAL AVERAGE DAILY PATIENT LOAD—(NEWBORN EXCLUDED) BY FISCAL YEAR

HOSPITAL	(July 1954-June 1955)	(July 1955-June 1956)	(July 1956-March 1957)
ALL HOSPITALS	295.9	301.1	339.6
Crownpoint	42.7	36.9	45.9
Fort Defiance			
General	72.1	73.0	86.5
Tuberculosis	94.0	89.1	90.7
Shiprock	25.9	29.9	36.3
Tuba City	33.1	47.0	50.2
Winslow	28.0	25.3	30.1

ADMISSIONS TO HOSPITALS—EXCLUSIVE OF HOSPITAL NEWBORN FISCAL YEARS 1954, 1955 & 1956

HOSPITAL		(July 1954-June 1955)	(July 1955-June 1956)	(July 1956-March 1957)
TOTAL ADMISSIONS		6,030	6,620	7,128
Crownpoint	Gen.	908	1,030	1,104
Fort Defiance	Gen.	1,870	1,926	1,921
	Tbc.	132	162	166
Shiprock	Gen.	1,140	1,282	1,504
Tuba City	Gen.	1,041	1,400	1,602
Winslow*	Gen.	853	820	831
	Tbc.	86	-	-

* Hospitalization for tuberculosis patients was discontinued 7-1-54. Orthopedic patients as well as general patients are being hospitalized at the Winslow Hospital.

HOSPITALS AND HEALTH CENTERS—OUTPATIENT SERVICES—PATIENT VISITS (EXCLUDING DENTAL) BY FISCAL YEAR

HOSPITAL	1954	1955	1956
HOSPITALS - TOTAL	57,697	61,490	69,019
Crownpoint	6,109	6,006	6,323
Fort Defiance	21,872	23,927	27,019
Shiprock	11,881	14,003	18,305
Tuba City	11,323	11,748	12,512
Winslow	6,512	5,806	4,860
HEALTH CENTERS			
HEALTH CENTERS - TOTAL	30,129	39,707	42,427
Chinle, Arizona	14,400	17,853	20,597
Gallup, New Mexico	14,993	18,283	18,695
Tohatchi, New Mexico	736	3,571	3,135
Intermountain Boarding School Infirmary, Brigham City, Utah	NA	31,533	42,660

INCIDENCE OF SPECIFIED COMMUNICABLE DISEASES—NAVAJO CALENDAR YEARS 1953 AND 1956

	1953		1956	
DISEASES	Cases	Rates Per 100,000 Population	Cases	Rates Per 100,000 Population
Tuberculosis, respiratory	624	850.1	428	539.7
Tuberculosis, other forms	170	231.6	71	89.5
Syphilis and its sequelae	417	568.1	133	167.7
Conococcal infections	428	583.1	342	431.3
Typhoid fever	5	6.8	6	7.6
Dysentery, all forms	115	156.7	205	258.5
Scarlet fever & strep. sore throat	11	15.0	92	116.0
Diphtheria	-	-	1	1.3
Whooping cough	24	32.7	1	1.3
Meningococcal infections	16	21.8	7	8.8
Acute poliomyelitis	8	10.9	5	6.3
Acute infectious encephalitis	2	2.7	1	1.3
Measles	776	1,057.2	200	252.2
Chickenpox	163	222.1	302	380.8
Mumps	264	359.7	76	95.8
Infectious hepatitis	31	42.2	25	31.5
Trachoma	423	576.3	58	73.1
Rocky Mountain spotted fever	2	2.7	-	-
Trichinosis	3	4.1	-	-
Scabies	19	25.9	3	3.8
Influenza	859	1,170.3	41	51.7
Pneumonia	802	1,092.6	901	1,136.2

Source: Annual Health Statistical Reports, Window Rock Office.

BIRTH AND DEATH RATES—NAVAJO COMPARED WITH U. S. GENERAL POPULATION RATES PER 1,000 POPULATION[1] BY CALENDAR YEAR

	BIRTHS			DEATHS		
	Navajo		U.S	Navajo		U.S
Year	Number	Rate	Rate 2/	Number	Rate	Rate 2/
1956	2,882	36.3	24.9	491 3/	3/	9.4
1955	2,661	34.4	24.6	585	7.6	9.3
1954	2,532	33.6	24.9	573	7.6	9.2
1953	2,479	33.8	24.6	639	8.7	9.6
1952	2,423	33.7	24.7	674	9.4	9.6

Source: Navajo Birth and Death certificates on file in Navajo Agency Census Office.

1/ Navajo estimated population, 79,300, as of July 1956, basis for calculating rates.

2/ Summary Tables, Table L, National Office of Vital Statistics 1954, Vol. I, page XXXI.

3/ Provisional, based on number on file with Navajo Agency Office. Preliminary rate based on incomplete report calculated to be 6.2.

MATERNAL DEATH RATES NAVAJO[1] AND U. S. GENERAL POPULATION

	Rates per 10,000 Live Births	
Year	Navajo 2/	U. S. Gen. Population 2/
1955	12.4	4.7
1954	16.9	5.2
1953	21.5	6.1
1952	19.6	6.8
1951	23.9	7.5
1950	23.0	8.3

1/ Source: Navajo death certificates on file in Navajo Agency Census office.

2/ Navajo rates for each year are calculated on 3-year averages. For U. S. general population, rates are for single calendar years.

INFANT DEATH RATES BY SELECTED CAUSE OF DEATH NAVAJO COMPARED WITH U. S. GENERAL POPULATION CALENDAR YEARS 1949, 1952 AND 1955

	Rates Per 1,000 Live Births					
	Navajo			U. S. Gen. Population		
CAUSE OF DEATH	1955	1952	1949	1955	1952	1949
ALL CAUSES	91.3	110.2	138.3	26.4	28.4	31.3
Influenza & Pneumonia	23.3	19.4	31.0	2.1	2.4	2.6
Certain diseases of early infancy	22.5	26.0	35.4	15.9	16.5	18.0
Pneumonia of Newborn	2.6	2.9	N.A.	0.8	0.8	0.8
Diarrhea of Newborn	1.1	1.7	N.A.	0.1	0.2	0.3
Other dis. of early infancy	18.8	21.4	N.A.	15.0	15.5	16.9
Dysentery & Gastritis, etc.	15.0	31.0	32.6	0.9	1.2	1.8
Symptoms & Ill-Defined Conditions	9.8	10.7	6.1	N.A.	0.9	1.1
Congenital Malformations	6.4	3.7	3.3	3.8	3.9	4.1
Tuberculosis, All Forms	1.5	6.2	6.6	N.A.	0.1	0.1
All Other Causes	12.8	13.2	N.A.	3.1	2.4	2.6

N.A. - not available.

INFANT[1] DEATHS PER 1,000 LIVE BIRTHS— BY CALENDAR YEAR

Year	NAVAJO		U.S. Pop.
	Number	Rate	Rate 2/
1956	164 3/	56.9 3/	26.1
1955	243	91.3	26.5
1954	275	108.6	26.6
1953	314	126.7	27.8
1952	267	110.2	28.4

Source: Navajo Birth and Death certificates on file in Navajo Agency Census Office

1/ Under one year of age.

2/ Summary Tables, Table M, National Office of Vital Statistics 1954 Vol. I, page XXI.

3/ Provisional, based on number on file with Navajo Agency Census Office.

PERCENT OF TOTAL DEATHS AND DEATH RATES BY AGE AND SEX
NAVAJO COMPARED WITH U. S. GENERAL POPULATION
CALENDAR YEAR 1955

	Percent of Total Deaths		Death Rate Per 1,000 Population	
	Navajo	U.S.	Navajo	U.S.
Total, all ages	100.0	100.0	7.6	9.3
Under 1 year	41.5	7.0	89.8	29.6
1 - 14 years	18.5	2.1	3.3	0.7
15 - 24 years	6.0	1.6	2.3	1.2
25 - 34 years	5.1	2.3	3.4	1.5
35 - 44 years	5.3	4.6	4.8	3.1
45 - 54 years	2.7	9.2	3.4	7.5
55 - 64 years	4.6	16.5	9.3	17.4
65 and over	15.7	56.4	28.7	306.7
Males, all ages	54.2	57.0	8.2	10.7
Under 1 year	21.2	4.0	91.6	33.5
1 - 14 years	8.2	1.2	2.9	0.8
15 - 24 years	4.1	1.1	3.3	1.7
25 - 34 years	2.9	1.4	4.0	1.9
35 - 44 years	3.2	2.7	6.1	3.8
45 - 54 years	1.7	5.9	4.1	9.6
55 - 64 years	3.1	10.6	11.2	22.9
65 and over	9.6	29.8	33.2	335.0
Females, all ages	45.8	43.0	6.9	7.9
Under 1 year	20.3	3.0	88.0	25.6
1 - 14 years	10.3	0.9	3.7	0.6
15 - 24 years	1.9	0.5	1.4	0.7
25 - 34 years	2.2	0.9	2.8	1.1
35 - 44 years	2.1	1.9	3.6	2.5
45 - 54 years	1.0	3.3	2.7	5.3
55 - 64 years	1.5	5.9	6.9	12.2
65 and over	6.1	26.6	23.6	283.5

TEN LEADING CAUSES OF DEATH AMONG NAVAJOS DEATH RATES AND PERCENT OF TOTAL DEATHS COMPARED WITH U. S. GENERAL POPULATION—CALENDAR YEAR, 1955

Rank		Rates Per 100,000 Pop.		Percent of Total Deaths	
		Navajo	U.S.	Navajo	U.S.
	ALL CAUSES	756.8	929.5	100.0	100.0
1.	Influenza and Pneumonia	111.3	27.5	14.7	3.0
2.	Accidents	97.0	55.6	12.8	6.0
3.	Certain Diseases of Early Infancy	77.6	39.8	10.3	4.3
4.	Gastritis, Duodenitis, Enteritis, and Colitis	71.2	4.9	9.4	0.5
5.	Tuberculosis, All Forms	69.9	9.5	9.2	1.0
6.	Measles	31.0	0.2	4.1	-
7.	Congenital Malformations	22.0	11.9	2.9	1.3
8.	Heart Diseases	20.7	352.0	2.7	37.9
9.	Non-meningococcal Meningitis	19.4	1.3	2.6	0.1
10.	Malignant Neoplasms	18.1	147.6	2.4	15.9
	All Other Causes	218.6	279.2	28.9	30.0

Source: Navajo death certificates on file in Navajo Agency Census Office.
General Population - National Office of Vital Statistics.
Monthly Vital Statistics Reports, Annual Summary
1955 - Part 2, Vol. 4, No. 13, May 28, 1956.

ACCIDENTAL DEATHS BY CAUSE OF ACCIDENT—NAVAJO (CALENDAR YEARS 1952 THROUGH 1956)

	1952	1953	1954	1955	1956
ALL ACCIDENTS	73	81	61	75	91
Per cent of Total Deaths	10.8	12.7	10.6	12.8	18.5
Motor Vehicle Accidents	33	46	24	33	50
Other Transport Accidents	4	2	1	1	6
Poisoning	2	2	-	1	-
Accidents caused by Firearms	1	2	3	-	-
Drowning and Submersion	3	4	2	5	4
All other Accidents	30	25	31	35	31

Source: Navajo death certificates on file in Navajo Agency Census office.

DEATHS PER 100,000 POPULATION, BY CAUSE NAVAJO' AND U. S. GENERAL POPULATION CALENDAR YEARS 1952-1956

CAUSE	Navajo 2/ 1952-1954	1953	Navajo 2/ 1954-1956	U.S. 1955
TOTAL - ALL CAUSES	854.9	958.9	711.1	929.5
Tuberculosis, all forms	87.5	12.5	57.8	9.5
Tuberculosis, respiratory	61.2	11.3	41.0	8.7
Tuberculosis, other forms	26.3	1.2	16.8	0.7
Syphilis and its sequelae	2.7	3.4	0.4	2.3
Typhod Fever	-	-	0.9	-
Dysentery, all forms	7.7	0.4	5.6	0.3
Diphtheria	-	0.1	-	0.1
Whooping Cough	1.4	0.2	-	0.3
Meningococcal Infections	1.8	0.8	1.3	0.6
Acute Poliomyelitis	1.8	1.1	-	0.6
Measles	11.8	0.3	15.5	0.2
Malaria	-	-	-	-
All other infectious & parasitic diseases	3.6	2.8	5.6	2.5
Malignant Neoplasms	24.0	144.7	25.0	147.6
Diabetes Mellitus	0.5	16.0	4.7	15.2
Vascular lesions affecting the central nervous system	11.3	108.2	11.6	106.6
Non-meningococcal Meningitis	11.7	1.4	11.6	1.3
Heart Diseases	30.8	357.6	25.0	352.0
Influenza	5.0	6.0	4.7	1.7
Pneumonia	107.9	27.0	100.0	25.8
Bronchitis	4.5	2.3	3.9	1.9
Appendicitis	2.3	1.6	0.4	1.4
Gastritis, duodenitis, enteritis, & colitis	133.7	5.4	72.4	4.9
Nephritis and Nephrosis	10.0	13.6	12.1	11.6
Complications of pregnancy, childbirth and the puerperium	7.3	1.4	4.3	1.2
Congenital Malformations	14.5	12.6	16.4	11.9
Birth injuries, post-natal asphyxia and atelasis	17.2	18.6	17.7	18.1
Infections of Newborn	26.7	2.7	19.8	2.5
Other diseases peculiar to early infancy & immaturity unqualified	56.7	19.3	4.4	19.2
Symptoms, senility, & ill-defined conditions	117.4	12.7	112.1	12.3
Motor vehicle accidents	46.7	24.2	46.1	22.9
All other accidents	50.8	36.6	51.7	32.7
Suicide & self-inflicted injury	2.3	10.2	4.3	9.9
Homicide & operations of war	5.0	5.1	3.4	4.6
All other causes	49.4	110.1	31.9	107.8

1/ Navajo population estimates on basis of which rates were calculated:
1952-1954: 77,300; 1954-1956: 79,300

2/ Navajo rates calculated on 3-year averages. U.S. rate for a single calendar year.

WELFARE

CHILD CARE[1]—NAVAJO AGENCY BRANCH OF WELFARE—BY MONTH, NUMBER OF CASES, AND COST—1955

MONTH	Boarding Home[2] Number	Boarding Home[2] Cost	Institutions[3] Number	Institutions[3] Cost	Special Schools[4] Number	Special Schools[4] Cost	GRAND TOTALS Number	GRAND TOTALS Cost
January	64	$2,595.00	18	$ 898.34	32	$3,724.74	114	$7,218.08
February	68	2,491.64	18	947.82	32	3,588.88	118	7,028.34
March	70	2,442.95	20	1,013.81	31	3,934.06	121	7,390.82
April	64	2,470.81	21	1,057.83	31	3,684.00	116	7,212.64
May	67	2,381.47	41	1,324.65	31	3,419.60	139	7,125.72
June	66	2,485.78	39	1,736.14	20	. .	125	4,221.92
July	60	2,318.82	35	1,636.55	. .	. .	95	3,955.37
August	109	2,366.86	35	1,815.34	. .	. .	144	4,182.20
September	73	1,824.96	18	917.00	29	3,316.43	120	6.058.39
October	56	1,843.62	18	898.34	33	4,437.45	107	7,179.41
November	42	1,712.98	16	874.49	34	6,091.04	92	8,678.51
December	40	1,542.15	16	819.49	34	3,594.58	90	5,956.22
TOTALS		$26,477.04		$13,939.80		$35.790.78		$76,207.62

(1) The Branch of Welfare provides for the care of Navajo children neglected, abandoned, or deserted by their parents; and children who require temporary care pending discharge of a parent from a Sanatorium or other institution.

(2) Boarding homes are privates homes generally, where child care is provided under contract.

(3) Institutions include orphanages generally, such as those operated by the Good Shepherd Mission at Ft. Defiance, the one operated by the Baptist Mission at Cottonwood, Arizona, etc.

(4) Special schools include those for the handicapped (deaf, blind), those for the feeble minded, etc.

GENERAL ASSISTANCE PAYMENTS BUREAU OF INDIAN AFFAIRS NAVAJO—1950-1957[1]

Year	Month	Total	Number Persons	Average per Person	Average per Household	Payments Boarding Homes	Number of Children
1950	January	$94,955.59[2]	5,120[2]	18.55	39.03	$1,733.31	42
	July	7,339.69	330	22.24	29.15	2,724.44	69
1951	January	15,191.94	579	26.23	37.14	1,290.32	34
	July	13,781.70	498	27.67	36.94	3,885.11	106
1952	January	13,676.33	475	28.79	39.30	1,595.27	44
	July	13,788.30	515	26.77	39.28	2,150.96	62
1953	January	12,894.97	472	27.32	39.55	2,275.65	61
	July	11,943.10	444	26.89	38.03	2,169.63	61
1954	January	10,799.48	358	30.16	41.22	2,921.33	68
	July	11,066.51	367	30.15	40.68	4,144.90	116
1955	January	12,029.00	406	29.62	43.11	3,493.34	82
	July	12,622.00	410	30.78	43.37	3,955.37	95
1956	January	17,092.00	584	29.27	44.63	2,127.30	49
	July	17,317.00	601	28.81	49.34	2,622.40	73
1957	January	15,147.00	448	33.81	44.81	2,560.00	58

(1) Compiled by Navajo Agency Branch of Welfare.

(2) Blizzard Emergency of 1949-50 coupled with a greated public assistance load at that time, increased welfare needs, and figures given include a total of $11,357.18 for general assistance during January, 1950, for 321 persons with average grants of $35.38 per person, or $45.07 per household for that month and year.

ARIZONA PUBLIC ASSISTANCE BY NUMBER OF PAYMENTS, AMOUNT OF GRANT BY CATEGORY FOR THE PAST SEVEN FISCAL YEARS—STATEWIDE[1]
ARIZONA

	TOTAL			OLD AGE ASSISTANCE			AID TO DEPENDENT CHILDREN			AID TO THE BLIND		
	Number of Payments	Amount	Average Grant	Number of Payments	Amount	Average Grant	Number of Payments	Amount	Average Grant	Number of Payments	Amount	Average Grant
1950-51	229,165	$13,617,708	$59.42	168,776	$8,759,734	$51.90	49,915	$4,241,237	$84.97	10,474	$161,737	$58.88
1951-52	219,705	12,117,396	55.15	166,711	8,367,824	50.19	44,097	3,263,964	74.01	8,897	485,608	54.58
1952-53	217,199	13,062,444	60.14	165,668	8,940,197	53.96	43,241	3,635,452	84.07	8,290	486,795	58.72
1953-54	221,030	14,166,159	54.09	165,101	9,315,760	56.42	47,520	4,319,704	90.90	8,409	530,695	63.11
1954-55	227,857	14,800,120	64.95	165,420	9,263,691	56.00	53,773	4,986,458	92.73	8,664	549,971	63.48
1955-56	233,199	15,142,669	64.93	167,907	9,364,348	55.77	56,192	5,192,352	92,40	9,100	585,969	64.39
1956-57[2]	239,461	16,115,327	67.30	169,181	9,411,681	55.63	60,711	6,083,072	100.20	9,569	620,574	64.85

(1) Prepared by Arizona State Department of Public Welfare.

(2) May and June estimated.

NAVAJO-HOPI PUBLIC ASSISTANCE BY NUMBER OF PAYMENTS AMOUNT OF GRANT BY PROGRAM AND FISCAL YEAR[1]
ARIZONA

	TOTAL			OLD AGE ASSISTANCE			AID TO DEPENDENT CHILDREN			AID TO THE BLIND		
	Number of Payments	Amount	Average Grant	Number of Payments	Amount	Average Grant	Number of Payments	Amount	Average Grant	Number of Payments	Amount	Average Grant
1951[2]												
1952	17,804	$ 988,057	$55.50	10,658	$483,241	$45.34	5,967	$453,658	$75.91	1,170	$51,158	$43.72
1953	20,697	1,259,007	60.83	12,024	596,736	49.63	7,485	603,346	80.61	1,188	58,925	49.60
1954	21,193	1,289,683	60.85	11,954	585,603	48.99	7,917	635,183	80.23	1,322	68,897	52.12
1955	20,964	1,307,709	62.38	11,564	579,350	50.10	8,052	653,182	81.12	1,348	71,177	52.80
1956	20,730	1,288,693	62.17	11.014	549,846	49.92	8,354	668,364	80.01	1,362	70,483	51.75
1957[3]	23,020	1,500,485	65.18	11,297	564,197	49.94	10,303	860,579	83.53	1,420	75,709	53.32

(1) Provided by the Arizona State Department of Public Welfare.

(2) Data not available for Navajo-Hopi for this fiscal year.

(3) May and June estimated. Aid to Dependent Children grants were increased by law.

NAVAJO-HOPI PUBLIC ASSISTANCE BY NUMBER OF PAYMENTS, AMOUNT OF GRANT, BY PROGRAM FOR THE MONTH OF SEPTEMBER IN THE PAST SIX YEARS[1],[2]—ARIZONA

	TOTAL			OLD AGE ASSISTANCE			AID TO DEPENDENT CHILDREN			AID TO THE BLIND		
	Number of Payments	Amount	Average Grant	Number of Payments	Amount	Average Grant	Number of Payments	Amount	Average Grant	Number of Payments	Amount	Average Grant
1951	1509	$ 87,208	$57.79	880	$40,825	$46.39	527	$42,352	$80.37	102	$4,031	$39.52
1952	1682	100,376	59.68	985	46,271	46.98	527	49,611	82.69	97	4,494	46.33
1953	1760	103,398	58.75	994	42,133	42.39	661	55,961	84.66	105	5,304	50.51
1954	1776	119,726	67.41	969	48,501	50.05	693	65,406	94.38	111	5,819	52.42
1955	1729	117,959	68.22	919	45,673	49.70	696	66,411	95.42	114	5,875	51.54
1956	1893	136,228	71.96	937	46,665	49.79	840	83,667	99.60	116	5,906	50.91

(1) Provided by the Arizona State Department of Public Welfare.

(2) Percentage of Hopi Indians in September, 1956 Navajo-Hopi Case Loads

Old Age Assistance.................................. ....—13.88%
Aid to Dependent Children...— 5.42%
Aid to the Blind............... ....— 7.33%
Total Hopi Case Load (OAA, ADC, and AB)................. ....—10.51%

TOTAL PUBLIC ASSISTANCE EXPENDITURES FOR NAVAJO INDIANS IN NEW MEXICO, ANNUALLY (1951-57)[1]

		AMOUNT OF PUBLIC ASSISTANCE BY PROGRAM			
iscal Year	Total[2]	Old Age Assistance	Aid to Dependent Children	Aid to Needy Blind	Aid to the Disabled
OTAL	$4,435,018.00	$1,779,628.50	$2,289,884.00	$190,419.00	$175,086.50
951	296,638.50	139,492.00	137,097.00	19,210.00	839.50
952	479,217.50	221,294.00	215,662.50	26,334.00	15,927.00
953	597,361.50	261,917.00	276,325.00	28,870.50	30,249.00
954	719,407.50	295,007.00	361,048.00	31,162.50	32,190.00
955	767,476.50	298,484.00	412,985.00	28,535.00	27,472.50
956	693,290.50	240,219.50	400,950.00	25,414.50	26,706.50
957	881,626.00	323,215.00	485,816.50	30,892.50	41,702.00

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1) Provided by New Mexico Department of Public Welfare.

2) Not adjusted for cancellations.

PUBLIC ASSISTANCE FOR NAVAJOS IN NEW MEXICO: RECIPIENTS, AMOUNT OF ASSISTANCE AND AVERAGE GRANTS, SHOWING TRENDS AS OF JUNE, ANNUALLY[1]

Month and Year	Recipients		Amount of Assistance	Average Grant per Case
	Cases	Persons		
ALL PROGRAMS				
July 1950	418	778	$11,536.50	$27.60
June 1952	963	2,065	35,669.00	37.04
1952	1,120	2,348	47,381.50	42.30
1953	1,184	2,452	59,352.00b	50.13
1954	1,316	2,843	68,834.50b	52.31
1955	1,386	2,965	57,874.50b	41.76c
1956	1,182	2,529	70,042.50	59.26
1957	1,204	2,349	76,130.00	63.23
OLD AGE ASSISTANCE				
July 1950a	280	331	6,153.50	21.98
June 1951	516	626	14,762.50	28.61
1952	552	671	21,118.50	38.26
1953	571	647	23,469.50	41.10
1954	612	693	25,628.50	41.87
1955	636	653	16,979.00	26.70
1956	525	552	23,307.00	44.39
1957	572	612	28,000.00	48.95
AID TO DEPENDENT CHILDREN				
July 1950a	108	410	4,704.50	43.56
June 1951	363	1,324	18,419.00	50.74
1952	439	1,503	21,738.50	49.52
1953	472	1,626	30,441.50	64.49
1954	567	1,981	37,896.00	66.84
1955	617	2,151	37,208.50	60.31
1956	530	1,830	41,702.00	78.68
1957	499	1,590	41,750.00	83.68

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(1) Provided by New Mexico State Department of Public Welfare.

(a) Includes amounts deposited to the Medical Pooled Fund.

(b) Navajo and Pueblo Indians were not identified separately prior to this date.

(c) Decrease in average grant result for overall decrease in percent of need met. Figures for June 1957 estimated.

NAVAJO PUBLIC ASSISTANCE BY NUMBER OF RECIPIENTS, AMOUNT OF GRANT BY PROGRAM FOR MONTH OF JUNE—1951-57' UTAH

	TOTAL ALL CATEGORIES			OLD AGE ASSISTANCE			AID TO DEPENDENT CHILDREN			AID TO THE BLIND		
Year	No. Cases	Amount	Average Grant	No. Cases	Amount	Average Grant	No. Cases	Amount	Average Grant	No. Cases	Amount	Average Grant
1951	73	$4,369.65	$51.22	29	$1,078.49	$37.19	39	$3,107.05	79.66	5	$184.11	$36.82
1952	77	5,944.61	63.32	28	1,309.54	46.77	43	4,388.11	102.05	6	246.96	41.16
1953	89	7,517.55	68.06	30	1,501.89	50.06	53	5,740.66	108.31	6	275.00	45.83
1954	93	6,752.51	65.37	32	1,480.58	46.27	54	4,851.93	89.85	7	420.00	60.00
1955	97	6,309.04	59.38	33	1,645.08	49.85	55	4,195.96	76.29	9	468.00	52.00
1956	103	7,099.19	68.92	36	1,818.54	50.52	56	4,744.40	84.72	11	536.25	48.75

(1) Provided by The Utah State Department of Public Welfare.

LAW AND ORDER

NAVAJO LAW AND ORDER

FINANCING
1952 - 1955

Source of Funds	1955	1954	1953	1952
Court Fines	$ 70,794.25	$ 67,232.50	$ 65,186.70	$ 64,284.25
Tribal Appropriations	243,667.00	198,536.00	21,000.00(1)	8,000.00(1)
Federal Appropriations	57,497.00	57,497.00	57,497.00	57,497.00

(1) Supplemented by Court Fines

NAVAJO LAW AND ORDER
MAJOR CRIMES(1)
1956-1957

Violations	Presented For Federal Prosecution		Federal Prosecution Declined		Conviction Federal Court		Acquittals Federal Court		Pending Federal Court Action		Finally Handled In Court Of Indian Offenses	
	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957(3)
Murder	3(2)	2 3(2)				1		1				
Manslaughter	1	2		2								2
Rape	11	7	3	7	8							7
Incest	2	1		1	2							1
Arson	10	4		4							10	4
Assault with Intent to kill	0	0										
Assault with a Deadly Weapon	12	11	9	10	3					1	9	10
Burglary	5	6		5		1						5
Larceny	3	5	3	2		1					3	2
Robbery	2	1	1	1	1						1	1
Federal Liquor Violation	5	1	2	1	3						2	1

(1) From records of the Navajo Agency Branch of Law and Order.

(2) Murder and suicide.

(3) Note large percentage referred back to Tribal Courts for disposition as lesser offenses.

LAW AND ORDER STATISTICS FROM RECORDS OF NAVAJO POLICE AND TRIBAL COURTS BY YEAR AND TYPE OF OFFENSE[1]—1952-1957

Type of Offense	1957	1956	1955	1954	1953	1952
Assault	86	74	70	78	62	70
Assault and Battery	164	126	113	93	106	118
Theft	26	32	14	15	16	21
Disorderly Conduct	3,719	3,736	3,706	3,610	3,622	3,325
Reckless Driving	351	326	152	162	168	141
Liquor Violation	1,368	1,356	1,223	1,321	1,145	1,343
Adultery	96	89	68	70	63	58
Illicit Cohabitation	145	116	90	82	78	85
Failure to Support Dependent Persons	172	189	218	210	220	216
Resisting Arrest	168	152	222	216	198	203
Disobedience to Lawful Court Order	115	108	162	153	159	168
Peyote	91	86	99	102	89	96
Tribal Divorces	80	76	84	85	42	48

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1) Pertains only to infractions of the Navajo Law and Order Code—offenses which may be tried in the Tribal Courts. Excludes the 10 major crimes which, although initially investigated by the Criminal Investigation Division of the Navajo Agency Branch of Law and Order, are tried in the Federal Courts.

DATES OF ESTABLISHMENT OF CERTAIN BOARDING SCHOOLS SERVING NAVAJOS[1]

Location	Date	Location	Dat
Fort Defiance	1881	Chinle	191
Keams Canyon	1887	Crownpoint	191
Tohatchi	1900	Toadlena	191
Tuba City	1901	Ft. Wingate	192
Shiprock	1907	Albuquerque	188
Leupp	1909	Santa Fe	189
		Phoenix	189

(1) From **Here Come The Navajo,** by Dr. Ruth Underhill, published by U. S. Indian Service.

EDUCATION

NAVAJO SCHOOL ENROLLMENT

1956-57 School Year[1]

pe and Location of School	Enrollment
: BOARDING SCHOOLS	
1. Cheechilgeetho	87
2. Chinle	316
3. Coyote Canyon	72
4. Crownpoint	187
5. Crystal	167
6. Denehotso	132
7. Fort Defiance	534
8. Greasewood	171
9. Hunters Point	95
10. Kaibeto	202
11. Kayenta	464
12. Lukachukai	180
13. Mariana Lake	129
14. Nazlini	200
15. Nenahnezad	160
16. Pine Springs	69
17. Pinon	353
18. San Juan	205
19. Sanostee	164
20. Seba Dalkai	101
21. Shiprock	905
22. Standing Point	56
23. Steamboat	147
24. Thoreau	195
25. Toadlena	238
26. Tohatchi	230
27. Tuba City	602
28. Fort Wingate	574
TOTAL	6,935
COMMUNITY BOARDING SCHOOLS	
1. Aneth	64
2. Baca	64
3. Beclabito	33
4. Klagetoh	100
5. Lake Valley	62
6. Luepp	70
7. Naschiti	152
8. Navajo Mountain	35
9. Pinedale	27
10. Pueblo Pintado	60
11. Red Rock	75
12. Rough Rock	74
13. Rock Point	115
14. Shonto	67
15. Teec Nospos	69
16. Tolani Lake	68
17. Torreon	66
18. Twin Lakes	104
19. Wide Ruins	80
20. White Horse	31
TOTAL	1,416
C: PERIPHERAL DORMITORIES AND RESERVATION PUBLIC	
1. Aztec	119
2. Crownpoint	322
3. Gallup	487
5. Holbrook	301
5. Huerfano	63
6. Kinlichee	123
7. Richfield	121
8. Snowflake	123
9. Steamboat	35
10. Emmons (Winslow)	309
TOTALS	(2,003)
Peripheral Dormitories	1,460
Reservation Public	543
D: TRAILER DAY SCHOOLS	
1. Borrego Pass	29
2. Brad Springs	39
3. Cain Valley	29
4. Chilchinbeto	48
5. Cottonwood	99
6. Cow Springs	7
7. Del Muerto Canyon	25
8. Dilcon	28
9. Dinnebito Dam	21
10. Hatch's Store	20
11. Indian Wells	27
12. Jones Ranch	30
13. Kimbeto	41

(Public school enrollment is partly based on estimates. Other statistics are taken from the official enrollment figures.

NAVAJO SCHOOL ENROLLMENT

1956-57 School Year[1]

Type and Location of School	Enrollment
14. Low Mountain	114
15. Nageezi	25
16. Ojo Encino	48
17. Oljetoh	14
18. Red Lake	58
19. Rock Springs	16
20. Sand Springs	15
21. Sheep Springs	12
22. Springstead	19
23. Tachee	35
24. Tocito	22
25. Tohlakai	27
26. Valley Store	27
27. Whippoorwill	23
28. White Cone	83
TOTAL	981
E: DAY SCHOOLS	
1. Cove	50
2. Iyanbito	25
3. Many Farms	141
4. Round Rock	52
5. Salina Springs	41
6. Sanitorium	40
TOTAL	349
F: HOGAN SCHOOLS	
1. Bellemont	69
TOTAL	69
G: LITERACY FIELD UNITS	
1. Bellemont	5
2. Crystal	6
3. Lukachukai	21
TOTAL	32
H: OFF-RESERVATION BOARDING	
1. Albuquerque	557
2. Chemawa	575
3. Chilocco	487
4. Haskell	142
5. Intermountain	2,323
6. Phoenix	660
7. Sherman	891
8. Stewart	393
9. Cheyenne-Arapahoe	128
10. Fort Sill	113
11. Riverside	186
12. Ramah	171
13. Ignacio	0
14. Jicarilla	44
15. Towac	1
16. Keams Canyon	205
17. Alamo	31
18. Canoncito	49
19. Consolidated Ute	176
TOTAL	7,132
I: OTHER	
1. Mission	1,691
2. Public	6,000
3. State Deaf-Blind	46
4. Sanatoria	133
5. Colleges and Other Advanced	226
TOTAL	8,096
GRAND TOTAL	27,013

NAVAJO SCHOOL ENROLLMENT BY TYPE OF SCHOOL 1939-1957

TYPE OF SCHOOL	1957	1956	1955	1954	1953	1952	1939
Reservation Boarding	6,935	7,012	6,414	4,609	4,183	4,081	3,244
Community Boarding	1,416	1,511	1,575	1,338	1,272	1,259	1,206(1)
Peripheral Dormitory	2,003(2)	1,581	1,030	0	0	0	0
Trailer Day Schools	981	934	1,119	179	117	0	0
Reservation Day Schools	349	326	622	625	425	352	245
Off Reservation Boarding	6,849	6,949	6,882	4,969	4,934	4,709	648
Public	6,000	5,000	3,900	2,847	2,393	1,846	234
Mission	1,483	1,483	1,408	1,219	1,175	1,168	650
State Deaf - Blind	43	43	33	30	26	18	7
All Other	728	448	688	294	240	47	141
TOTAL	27,013	25,287	23,671	16,110	14,765	13,480	6,375

(1) These were day schools in 1939, since converted to boarding school basis.

(2) Includes 543 children housed in Bureau Dormitories and attending Reservation Public Schools.

GROWTH OF NAVAJO EDUCATION[1]

YEAR	Navajo Population	Number of Children 6-18[8]	Number of Children in School[7]	Percentage of Children Out of School	Percentage of Children In School
1868	9,000[1]	3,015	0	100	0
1878	11,850[1]	3,970	0	100	0
1888	18,000[1]	6,030	35	99	.05
1898	20,500[1]	6,867	185	97	3
1908	22,600[1]	7,571	770	90	10
1918	30,000[1]	10,050	1,881	81	19
1928	40,000[1]	13,400	5,000	63	37
1930	42,000[2]	14,070	5,719	64	36
1935	46,000	15,410	6,681	57	43
1940	48,722[3]	16,321	6,164	62	38
1945	61,000[4]	20,435	6,543	68	32
1950	69,000[5]	23,115	12,751	45	55
1953	76,000	25,460	16,110	37	63
1954	78,000[6]	26,130	23,671	9	91
1955[9]	80,000[6]	27,752	23,679	15	85
1956[9]	81,585[6]	29,579	25,287	14	86
1957[9]	83,420[6]	29,585	26,787	9	91

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(1) The information shown herein is an effort to trace the trend in general Navajo population growth the increase in the number of school-age children, and the growth of school enrollment during th period 1868-1955. The figures given are estimates since, as we pointed out in Report No. IV Navajo census information has always been estimated, even in recent times. The Navajo popula tion 1868 is unknown, and the 9,000 used in the above Table is based on the number (estimated a 8,500) who reported for rations atFort Defiance in 1868, following the return from Fort Sumner. I is probably insufficient to include the total number of Navajos who did not go to Fort Sumner and who failed to turn up for rations after the conclusion of the Treaty of 1868.

The figure for 1878 is an estimate based n the number of Navajos who claimed rations at th Fort Defiance Agency during the Treaty Period (1868-1878). Subsequent figures are based on count and Tribal Rolls after 1900, none of which were, or are, accurate or complete, and the figures pro vided remain estimates.

(2) The 1930 census showed a population, presumably by actual count, of 41,786, or appraximatel 42,000.

(3) In 1940 a population of 48,722 was reported in the "Human Dependency Survey." During Februar 1943, Ration Book No. 2 was distributed to approximately 48,580 Navajos on the Reservation an adjacent allotted lands. At the same time, an estimated 2,000 Navajos were in the Armed Force and 5,000-7,000 were employed off the Reservation, indicating a population between approximatel 55,580 and 57,580.

(4) In October, 1943, Ration Book No. 3 was issued directly by the Office of Price Administration t 53,624 individual Navajos on the Reservation and in adjacent allotted areas. By that time, a estimated 2,500 Navajos were in the Armed Forces, and 6,000 to 7,500 were employed outside th Reservation area, indicating a total population between 62,124 and 63,624.

A year later, in October, 1944, Ration Book No. 4 was issued to 47,750 Navajos on the Rese vation and adjacent allotted lands. An estimated 3.000 were thin in the Armed Forces, ad betwee 9,000 ad 12,000 were employed outside the Reservation area, indicating a total population of be tween 59,750 and 62,750. The 61,000 population used for 1945 in the above table is based on th Ration Book count, and is an arbitrary compromise.

(5) The 69,000 used for 1950 is based on the actual Census count plus the estimated number of perso not counted in the Navajo Country or not present at Census time.

(6) Based on the 1950 Census, but adjusted upward on the basis of Census Rolls, School Census an other records.

) Information relating to school enrollment was taken from flies in the Navajo Agency Branch of Education for the period 1935 to 1955, and from an old document for preceding years.

) The figures representing the number of school-age children was estimated on the premise that 33.5% of the total population is between the ages of 6-18 years, inclusive. In a document entitled "Survey of Conditions of the Indians in the United States, Part 18" the then existing six Navajo Agency Jurisdictions reported Navajo population by age groups on the basis of the Census of 1950. Of these, two agencies used the category 6-18, which represented 33.79% of their total population. This proportion was projected over the total 1930 population of 41,786 in all six agencies to determine the number of school-age children at that period. The proportion, with regard to the same age group, as reported in the 1950 Census was 33.46%. Using 33.5% as the proportion of the total population aged 6-18 years inclusive, the total number of school-age children for each period in reference in the above Table was estimated. The same estimate was applid in the table above for 1955, despite the fact that, in June, 1955, the actual count of school-age children was 26,768 plus 984 children in areas under the jurisdiction of the United Pueblos Agency (Ramah, Canoncito and Alamo). It is of note that the estimate provided in the Table and the actual count in 1955 were almost identical.

) The actual school census figures were used for these years. There are obvious discrepancies, and the figure 29,579 used for 1956 presumably includes duplicated census cards eliminated in the 1957 Census. The School Census remains a close estimate of the number of children, aged 6-18, based on actual count under such difficult conditions that elimination of error is impossible.

NUMBER OF NAVAJO HIGH SCHOOL GRADUATES AND COLLEGE STUDENTS FOR PERIOD 1935-1957, BY SCHOOL YEAR[1]

hool Year	Number High School Grad.	Number College Stud.	School Year	Number High School Grad.	Number College Stud.
935-36	38	8	1946-47	50	35
936-37	40	9	1947-48	52	36
937-38	39	11	1948-49	55	38
938-39	38	10	1949-50	74	37
939-40	39	14	1950-51	99	71
940-41	40	16	1951-52	102	69
941-42	43	20	1952-53	100	77
942-43	44	21	1953-54	121	84
943-44	46	21	1954-55	130	140
944-45	47	29	1955-56	139	160
945-46	49	31	1956-57	180	294

(1 Numbers representing College students include all Navajo High School Graduates attending College, Universities, Business Colleges, Nurses Training Schools or other institutions of advanced learning with the exception of Haskell Institute.

SPECIAL PROGRAM

NUMBER OF NAVAJO GRADUATES BY YEAR AND SCHOOL

1951-1957

	1951		1952		1953		1954		1955		1956		1957		
SCHOOL	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	TOTAL
Albuquerque	0	0	0	0	19	24	2	5	6	13	18	13	14	15	129
Chemawa	0	0	0	0	19	7	22	13	17	10	9	12	27	23	159
Chilocco	0	0	12	19	25	29	26	18	15	15	30	21	27	15	252
Intermountain	0	0	0	0	0	0	15	9	108	80	161	139	110	85	707
Phoenix	0	0	28	24	18	15	8	11	5	8	14	13	19	14	177
Sherman	69	32	33	23	40	42	36[1]	30[1]	30[2]	22[2]	42	49	48	48	544
Stewart	0	0	27	21	24	24	9	11	11	12	25	16	27	21	228
Haskell	0	0	0	0	0	0	0	0	0	0	1	0	7	4	12
TOTAL	69	32	100	87	145	141	118	97	192	160	300	263	279	225	2,208

(1) Excludes 14 Papago boys and 1-5 Papago girls graduated from Sherman in 1954.

(2) Excludes 11 Papago boys, 11 Papago girls and one Apache boy graduated from Sherman in 1955.

Special Program - Status of Graduates by School - 1951 - 1957, Inclusive

Status of Graduate	Albuquerque		Chemawa		Chilocco		Haskell		Intermtn		Phoenix		Sherman		Stewart		Total
	B(1)	G(2)	B	G	B	G	B	G	B	G	B	G	B	G	B	G	
Armed Services	5	0	9	0	11	0	0	0	54	0	7	0	16	0	15	0	117
Employed off-Reservation	26	25	54	45	78	58	5	1	256	199	35	34	127	96	56	51	1146
Employed on-Reservation	8	6	6	2	15	14	0	0	21	11	8	2	8	9	3	3	116
In school off-Reservation	1	1	2	0	4	4	0	0	2	5	2	1	1	3	0	1	27
In school on-Reservation	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3
Housewives-off-Reservation	-	10	-	3	-	5	-	0	-	28	-	6	-	18	-	9	79
Housewives-on-Reservation	-	12	-	7	-	6	-	0	-	10	-	6	-	27	-	6	74
Deceased	1	0	0	0	2	0	0	0	0	0	0	0	5	0	0	0	8
Hospitalized	0	2	2	0	0	0	0	0	1	1	0	1	3	3	2	0	15
Unemployed-off-Reservation	0	1	1	0	3	0	0	0	7	1	3	2	8	1	0	0	27
Unemployed-on-Reservation	11	6	7	3	3	1	2	2	21	44	3	4	19	26	2	1	155
Uncertain	0	2	6	3	2	0	0	0	4	7	2	0	4	0	0	0	30
Unknown	6	5	8	2	4	10	1	1	32	9	3	5	30	35	18	11	180
Totals	59	70	95	65	123	98	8	4	399	315	63	61	221	218	96	82	1977

B(1) Boys
G(2) Girls

COMPARISON OF GRADES OBTAINED IN COLLEGE WITH HIGH SCHOOL AVERAGES BY TYPE OF HIGH SCHOOL[1]

1953-1955

Type of High School Attended and Average Grade	Number of Students	Quality of College Work Corresponding by Number of Students in Each Grade Category				
		A-Avg.	B-Avg.	C-Avg.	D-Avg.	Failing
I. A-Average						
1. Mission School	8	0	5	2	1	0
2. Bureau School	7	0	4	3	0	0
3. Public School	0	0	0	0	0	0
TOTALS	15	0	9	5	1	0
II. B-Average						
1. Mission School	37	0	5	28	2	2
2. Bureau School	20	0	4	11	5	0
3. Public School	9	1	2	2	2	2
TOTALS	66	1	11	41	9	4
III. C-Average						
1. Mission School	10	0	0	7	3	0
2. Bureau School	9	0	3	3	3	0
3. Public School	6	0	1	4	1	0
TOTALS	25	0	4	14	7	0
GRAND TOTAL	106	1	24	60	17	4

(1) The table is based on the records of 106 Navajo college students assisted to attend college by the Navajo Tribe, either through the Tribal Scholarship Program or through the Tribal Loan Progra during the years 1953-55, inclusive. The purpose of the table is to show the relative degree o correspondence between the quality of High School work as evidenced by the average grade give by the three types of high schools for four years of high school work in contrast with average grades attained by the same students so far in their college work. Not all of the college student so far assisted by the Navajo Tribe are accounted for in the table, ad it should not be iterprete as implying that only four have so far failed in their college work, dropped out of college, o been dropped by the Scholarship Committee for failure to meet requirements other than minimu grades (the rules of the Committee requir a minimum of 15 smester hours of work per semester a well as a C-average). When the number of College graduates is sufficiently great to be significan the table will be revised to compare 4-year averages in high school and college.

DISTRIBUTION OF NAVAJO TRIBAL SCHOLARSHIP RECIPIENTS BY SECULAR AND DENOMINATIONAL SCHOOLS—1953-1957[1]

School Year	Secular Schools		Denominational Schools		Total Scholarshi Recipient
	Number	Percent	Number	Percent	
1957-58	89	78.0	25	22.0	114
1956-57	57	66.3	29	33.7	86
1955-56	54	72.0	21	28.0	75
1954-55	54	76.1	17	23.9	71
1953-54	18	72.0	7	28.0	25

(1) Excludes 23 scholarships awarded for vocational training in fiscal year 1958, but includes regul nurses training.

PROBABLE NUMBER OF NAVAJO HIGH SCHOOL GRADUATES BY YEAR FOR 10-YEAR PERIOD

1956-1966 (1)

SCHOOL YEAR	NUMBER OF EXPECTED HIGH SCHOOL GRADUATES
1956-57	185[2]
1957-58	293[3]
1958-59	352[4]
1959-60	404
1960-61	476
1961-62	500
1962-63	1,600
1963-64	1,750
1964-65	1,800
1965-66	1,840

[1] Prepared by Dr. Don May, Navajo Agency Branch of Education, on the basis of available information.

[2] It was estimated that 185 Navajo boys and girls are now (1955-56) in their Junior year in High School, and assumed that all of this group will graduate.

[3] The number of Navajos now estimated in the Sophomore year in High School was reduced by 10%, representing anticipated drop-out.

[4] The number of Navajos now estimated in the Freshman year was reduced by 15% representing drop-out or failure to graduate from High School.

[5] The number of Navajo boys and girls expected to graduate in the period 1959-60 to 1965-66 was estimated on the basis of present enrollment in grades 2-8, inclusive in all types of schools, reduced by an arbitrary 20% representing that proportion in each grade not expected to graduate for various reasons (e.g., failure to enter high school, marriage, drop-out before graduation, etc.).

PROBABLE NUMBER OF NAVAJO SPECIAL PROGRAM GRADUATES BY YEAR FOR 5-YEAR PERIOD

1956-1960

SCHOOL YEAR	NUMBER OF EXPECTED SPECIAL PROGRAM GRADUATES
1955-56	605
1956-57	786[1]
1957-58	697[2]
1958-59	1,092
1959-60	643

The total of those presently enrolled who might be expected to complete the last year of their program to graduate in 1957 was reduced by 10%, representing anticipated drop-out.

The number of Special Program students expected to graduate in the years 1958-60, inclusive, was based on the number of students presently enrolled in various years of the program, reduced by an arbitrary 20% to represent drop-out before graduation.

RELOCATION

All of the statistical tables provided with respect to the characteristics of Navajo relocatees were taken from a study carried out by Mr. Robert Cullum Gallup Area Relocation Specialist, entitled Assisted Navajo Relocation - 1952-1956 - Statistical Summary.

TOTAL NAVAJO RELOCATIONS BY AREA 1952-1956, INCLUSIVE

Subagency Area	Number Relocation Units	Number Persons
Chinle	78	149
Crownpoint	156	390
Ft. Defiance	149	311
Shiprock	59	122
Tuba City	60	105
Total	502	1,077

TOTAL NAVAJO RELOCATIONS BY YEAR, 1952-1956, INCLUSIVE

Fiscal Year	No. Persons Regular	No. Persons Railroad	Total No. Persons	% Increase over preceding yea
1952	22	0	22	0
1953	140	0	140	536
1954	198	0	198	41
1955	187	63	250	21
1956	530	347	877	251

RELOCATIONS BY SUBAGENCY AND MARITAL STATUS FISCAL YEARS 1952-56

SUBAGENCY	Single Men	Single Women	Families		Total	
			Units	Persons	Units	Persons
Chinle	55	3	20	91	78	149
Crownpoint	71	9	76	310	156	390
Ft. Defiance	87	11	51	213	149	311
Shiprock	33	6	20	83	59	122
Tuba City	32	3	25	70	60	105
Total	278	32	192	767	502	1077

RELOCATIONS BY FISCAL YEAR AND MARITAL STATUS—1952-56

Fiscal Year	Single Men	Single Women	Families		Total	
			Units	Persons	Units	Persons
1952	8	0	6	14	14	22
1953	38	7	21	95	66	140
1954	32	9	36	157	77	198
1955	49	7	30	131	86	187
1956	151	9	99	370	259	530
Total	278	32	192	767	502	1077

RELOCATEES REMAINING OFF RESERVATION BY FAMILY SIZE 1953-56

Units and Persons		2	3	4	5	6	7	8	9	Total
Units -	Total	35	48	37	29	17	9	8	3	186
	There	21	30	25	21	11	5	4	1	118
	Returned	14	18	12	8	6	4	4	2	68
	Percent There	60.0	62.5	67.6	72.4	64.7	55.6	50.0	33.3	63.4
Persons -	Total	70	144	148	145	102	63	64	27	763
	There	42	90	100	105	66	35	32	9	479
	Returned	28	54	48	40	36	28	32	18	284
	Perc. There	60.0	62.5	67.6	72.4	64.7	55.6	50.0	33.3	62.8

RELOCATEES, NUMBER AND PERCENT REMAINING OFF-RESERVATION BY YEAR AND MARITAL STATUS—1953-56

	Fiscal Year				
Units and Persons	1953	1954	1955	1956	All
Single Men:					
Total	38	33	50	149	270
There	21	25	30	92	168
Returned	17	8	20	57	102
Percent There	55.2	75.7	60.0	61.7	62.2
Single Women:					
Total	6	9	7	10	32
There	2	6	5	8	21
Returned	4	3	2	2	11
Percent There	33.3	40.0	71.4	80.0	65.6
Families:					
Units - Total	21	35	30	100	186
There	12	18	22	66	118
Returned	9	17	8	34	68
Percent There	57.1	51.4	73.3	66.0	63.4
Persons - Total	95	154	131	383	763
There	58	79	90	252	479
Returned	37	75	41	131	284
Percent There	61.1	51.3	68.7	65.8	63.8
All Units:					
Total	65	77	87	259	488
There	35	49	57	156	307
Returned	30	28	30	103	181
Percent There	53.8	63.6	65.5	60.2	62.9
All Persons:					
Total	139	196	188	542	1,065
There	81	110	125	352	668
Returned	58	86	63	190	398
Percent There	58.3	56.1	66.4	64.9	62.7

DESTINATION OF RELOCATEES BY NUMBER AND PERCENT REMAINING OFF-RESERVATION—1953-56

Units and Persons	Chicago	Denver	Los Angeles	San Francisco Bay Area	Other
Single Men:					
Total	30	13	187	30	10
There	12	11	121	17	7
Returned	18	2	66	13	3
Percent There	40.0	84.6	64.7	56.7	70.0
Single Women:					
Total	2	4	19	3	4
There	0	4	12	1	4
Returned	2	0	7	2	0
Percent There	0.0	100.0	63.2	33.3	100.0
Families:					
Units - Total	16	10	123	25	12
There	10	8	75	16	9
Returned	6	2	48	9	3
Percent There	62.5	80.0	61.0	64.0	75.0
Persons - Total	62	31	509	92	69
There	40	25	308	57	49
Returned	22	6	201	35	20
Percent There	64.5	80.6	60.5	62.0	71.0
All Units:					
Total	48	27	329	58	26
There	22	23	208	34	20
Returned	26	4	121	24	6
Percent There	45.8	85.2	63.2	58.6	76.9
All Persons:					
Total	94	48	705	125	83
There	52	40	431	75	60
Returned	42	8	274	50	23
Percent There	55.3	83.3	61.1	60.0	72.3

AGE OF RELOCATEES BY RELATIVE PERCENTAGES REMAINING OFF-RESERVATION

	Number			Percent of	
Age	There	Returned	Total	Total	Percent There
18-19	35	29	64	13.5	54.7
20-24	142	69	211	44.7	67.3
25-29	63	37	100	21.2	63.0
30-34	31	20	51	10.8	60.8
35-39	19	11	30	6.4	63.3
40-44	5	8	13	2.8	38.5
45-49	1	2	3	.6	33.3
No data	11	5	16		
Total	307	181	488	100.0	62.9

RELOCATEES, RELATIVE KNOWLEDGE OF ENGLISH AS A FACTOR IN PERMANENCY OF RELOCATION

Use of	Number			Percent of	
English	There	Returned	Total	Total	Percent There
Very Good	69	37	106	23.0	65.1
Good	162	95	257	55.9	63.0
Fair	53	36	89	19.4	59.6
Poor	3	4	7	1.5	42.9
None	0	1	1	.2	0.0
No data	20	8	28		
Total	307	181	488	100.0	62.9

RELOCATEES, RELATIVE YEARS OF SCHOOL COMPLETED AS A FACTOR IN PERMANENCY OF RELOCATION

Highest Grade	Number			Percent of	
Completed	There	Returned	Total	Total	Percent There
None	9	4	13	2.8	69.2
1 - 4	51	45	96	20.5	53.1
5 - 7	104	53	157	33.6	66.2
8	33	23	56	12.0	58.9
9 - 11	55	29	84	18.0	65.5
12	40	21	61	13.1	65.6
No data	15	6	21		
Total	307	181	488	100.0	62.9

RELOCATEES, REASONS GIVEN FOR RETURN TO RESERVATION

Reasons given for return	Single Men	Single Women	Heads of Families	Total	Percent of Total
Adjustment problems	30	6	31	67	53.1
Homesick	1	0	1	2	1.6
Lonesome	0	1	2	3	2.4
Shy	1	0	0	1	.8
Immature	1	1	0	2	1.6
Language	2	0	2	4	3.2
Confused by city	3	2	0	5	4.0
Tired of city life	1	0	0	1	.8
Racial problems	2	0	0	2	1.6
Weather	1	0	2	3	2.4
Marital problems	0	0	2	2	1.6
Family unhappy	0	0	3	3	2.4
Budgeting	0	0	3	3	2.4
Indebtedness	0	0	1	1	.8
Did not like job	2	0	3	5	4.0
Excessive use of alcohol	10	0	9	19	15.0
Not specified	6	2	3	11	8.7
Illness	15	0	11	26	20.6
Strike	2	0	2	4	3.2
Discharged	1	0	2	3	2.4
Jail sentence	1	0	0	1	.8
Parents wished return	1	1	0	2	1.6
Illness on reservation	0	0	2	2	1.6
Death on reservation	0	0	1	1	.8
Entered Armed Services	9	0	0	9	7.1
Came back on vacation	0	0	1	1	.8
Came back to marry	2	0	0	2	1.6
Community workers called back	0	0	1	1	.8
Came back with a friend	0	0	1	1	.8
Came back to local jobs	2	0	0	2	1.6
Came back to farm	2	0	0	2	1.6
Returned to school	2	0	0	2	1.6
No Data	35	4	16	55	
Total	102	11	68	181	100.00

RELOCATEES, TYPE OF SCHOOL ATTENDED AND RELATIVE PERMANENCY OF RELOCATION

Type of School	Number There	Number Returned	Number Total	Percent of Total	Percent There
None	7	4	11	2.5	63.6
Public	22	2	24	5.6	91.7
Mission	28	17	45	10.4	62.2
Gov't.	218	135	353	81.5	61.8
No data	32	23	55		
Total	307	181	488	100.0	62.9

RELOCATEES, RELATIVE DURATION OF RELOCATION BY MARITAL STATUS

Months away from the Reservation	Number Single Men	Number Single Women	Number Family Heads	Total	Percent of Total
One week or less	5	3	4	12	7.2
Two to three weeks	5	0	5	10	6.0
1	8	0	4	12	7.2
2	9	1	6	16	9.6
3	12	0	7	19	11.3
4	15	0	4	19	11.3
5	3	2	5	10	6.0
6	5	0	4	9	5.4
7 - 9	11	0	13	24	14.4
10 - 12	9	1	8	18	10.8
13 - 18	7	3	5	15	9.0
19 - 30	3	0	0	3	1.8
No data	10	1	3	14	
Total	102	11	68	181	100.0

PRECIPITATION RECORD—NAVAJO RESERVATION

	ARIZONA				NEW MEXICO	
YEAR	Ft. Defiance	Kayenta	Leupp	Tuba City	Shiprock	Crownpoint
1956	6.79	6.19	2.98	3.34	5.48	3.98
1955	8.49	6.05	5.28	4.21	2.94[3]	1.86[3]
1954	11.20	6.70	5.17	4.43	5.90	8.01
1953	7.97	6.98	5.90	5.35	6.67	6.04
1952	12.99	11.77	7.25	13.25	6.15	11.23
1951	9.92	8.37	8.18	5.91	4.53[2]	7.55
1950	6.16	4.53	3.34	6.34	2.10	—[1]
1949	13.22	11.41	7.34	7.80	6.92	7.30
1948	14.59	9.34[2]	5.24	4.29	8.47	10.26
1947	12.46	9.34	—[3]	7.82	8.06	12.34
1946	11.89	—[3]	—[3]	6.90	5.41	10.61
1945	15.77	—[3]	—[1]	3.95	5.04	8.54
1944	12.99	—[3]	—[1]	5.08	6.00[2]	10.27
1943	9.72	3.63	—[1]	6.71	—[1]	8.76
1942	8.90	—[3]	6.48	5.64	—[1]	—[1]
1941	23.73	—[1]	10.56	15.20	15.85	—[1]
1940	15.30	—[3]	10.40[2]	8.90[2]	8.85	11.03
1939	10.27	—[3]	4.49	4.84	6.97[2]	7.48
1938	10.61	8.80	2.52	—[3]	7.55[2]	11.40
1937	12.96	8.56	6.66	6.09	6.52	12.47
1936	13.08	5.76	4.54	7.08	5.76	12.28
1935	10.56	8.37	7.12	6.21	7.63[2]	11.60
1934	6.84	5.76	—[3]	6.75	4.24	7.63
1933	9.34	8.38	—[1]	5.47	4.77	10.21
1932	9.95	10.02	—[2]	5.27	5.20	12.86
1931	15.18	10.24	—[1]	6.79	9.11	15.55
1930	11.62	9.22	—[1]	8.11	6.53	7.28
1929	—[3]	8.22	—[1]	—[3]	10.26	13.49
1928	—[1]	7.57	—[1]	5.07	8.69	11.41
1927	—[1]	11.05	—[1]	13.10[2]	10.55	17.26
1926	—[1]	6.36	—[3]	10.23	11.83	9.71
1925	—[1]	10.59	7.87[2]	6.44		11.18
1924	—[1]	5.70	—[3]	1.58		14.53
1923	—[1]	10.51	—[1]	—[3]		15.86
1922	—[1]	8.29	—[3]	4.50		7.68
1921	—[1]	10.91	8.36	7.11		11.66
1920	—[1]	4.63[2]	7.87	7.20		8.25
1919	—[1]	—[3]	6.66	—[3]		16.99
1918	—[1]	—[3]	6.27	—[1]		5.00
1917	—[1]	—[3]	5.94	6.44		5.03

	ARIZONA				NEW MEXICO	
YEAR	Ft. Defiance	Kayenta	Leupp	Tuba City	Shiprock	Crownpoint
1914	—[1]		—[3]	11.19		12.85
1913	19.37[2]			6.59		
1912	7.90[2]			6.59		
1911	18.28[2]			9.13		
1909	14.59[2]			7.02		
1908	12.15[2]			7.90[2]		
1907	13.67[2]			—[3]		
1906	11.83[2]			12.57		
1905	20.65			—[3]		
1904	11.14			—[3]		
1903	18.51			—[3]		
1902	12.87			3.50[2]		
1901	13.33			3.00[2]		
1900	6.52			—[3]		
1899	12.63			2.63		
1898	11.78			—[3]		
1897	—[3]			—[3]		
[4]						
1860	11.70					
1859	11.31					
1858	11.97					
1857	13.06					
1856	11.63					
1855	17.08					
1954	22.44					
1853	13.87					
1852	—[3]					
TOTAL	456.25	235.01	146.17	313.65	189.66	393.75
NO. YEARS	35	28	22	45	26	37
AVERAGE	13.04	8.39	6.64	6.97	.7.29	10.64

(1) No record.
(2) Partially estimated.
(3) Record incomplete.
(4) No records available relatice to period 1860-1897.
(5) Fort Defiance discontinued, and record taken at Window Rock.

STATUS OF LAND UNDER NAVAJO JURISDICTION INSIDE RESERVATION BY STATE AND COUNTY IN ACRES

(Includes Hopi)

State & County	Tribal Land	Trust Allotment	Private Land	Total
Arizona				
Apache	4,022,936	31,325	8,511	4,062,772
Navajo	3,353,000	45,880	149,460	3,548,340
Coconino	3,829,160	2,980	4,938	3,837,078
TOTAL	11,205,096	80,185	162,909	11,488,190
New Mexico				
McKinley	678,081	0	0	678,081
San Juan	1,711,973	0	0	1,711,973
TOTAL	2,390,054	0	0	2,390,054
Utah				
San Juan	1,184,073	9,600	56,310	1,249,983
GRAND TOTAL	14,779,223	89,785	219,219	15,088,227

THE NAVAJO SUBAGENCIES—STATISTICAL—1955

Subagency Head-quarters	Districts Included	Navajo Population Est. 1954	Land Area	Number Schools	Enrollment	Number Subagency Employees		
						Res.	C. S.	Op.
Tuba City	1, 2, 3, 5, 8	14, 849	6, 110, 297	17	1, 837	25	250	24
Shiprock	9, 12, 13	13, 372	2, 727, 330	15	2, 025	31	340	47
Crownpoint	15, 16, 19	15, 813	1, 235, 562	22	2, 050	19	288	26
Chinle	4, 10, 11	12, 418	2, 106, 856	19	1, 666	23	211	19
Ft. Defiance	7, 14, 17, 18	21, 582	3, 327, 988	21	2, 259	23	289	41
TOTALS	18	78, 034	15, 508, 033	94	9, 837	121	1, 378	157

STATUS OF LAND UNDER NAVAJO JURISDICTION OUTSIDE RESERVATION BY STATE AND COUNTY IN ACRES

State and County	Tribal Fee	Tribal Trust	Trust Allotment	Re-settlement Land	Administr. Reserves	Exchange Land	Total
ARIZONA							
Apache	98,000		5,320				103,320
Navajo			2,960				2,960
Coconino			2,080				2,080
TOTAL	98,000		10,360				108,360
NEW MEXICO							
McKinley	11,563	177,782	357,920	70,267	2,570	181,944	802,046
San Juan		6,400	143,040		1,590	31,680	182,710
Sandoval			57,120		40		57,160
Valencia		59,452 (1)	40,000 (1)			12,800 (1)	112,252
Rio Arriba			800				800
TOTAL	11,563	243,634	598,880	70,267	4,200	226,424	1,154,968 (2)
UTAH							
San Juan			1,120				1,120
TOTAL			1,120				1,120
GRAND TOTAL	109,563	243,634	610,360	70,267	4,200	226,424	1,264,448

(1) Ramah
(2) Does not include approximately 600,000 acres Public Domain administered by BLM and used by Navajos.

RANGE RESOURCES
(Navajo Area)

TYPE NO.	RANGE TYPE	ACREAGE	CARRYING CAPACITY
1	Grassland	4,228,199	238,770
2	Mountain meadow	3,748	136
3	Weeds (perennial)	12,671	286
4	Sagebrush	806,778	55,468
5	Browse	4,040,557	108,409
6	Conifers (timber species)	546,356	22,103
7	Inaccessible	716,128	None
8	Barren	925,751	None
9	Woodland (pinyon-juniper)	3,102,645	85,732
10	Aspen	1,282	18
	Cultivated (includes 18,420 acres of irrigated land)	36,720*	None
	TOTAL	14,420,835	512,922

*1952

NAVAJO RESERVATION
District Summary by States and Counties
(Surface Area in Acres)

District Number	ARIZONA			NEW MEXICO		UTAH	TOTAL
	Coconino	Apache	Navajo	San Juan	McKinley	San Juan	Surface Area Acres
1	1026,584		8,956				1,035,540
2	361,106		434,250			299,620	1,094,976
3	1,756,235		3,101				1,759,336[2]
4	6,604	144,284	750,279				901,167[2]
5	630,950		181,250				812,200[2]
6[1]	55,599		443,649				499,248[2]
7		79,738	911,911				991,649[2]
8		348,709	643,530			458,357	1,450,596
9		607,373		16,684		372,219	996,276
10		794,484					794,484
11		417,235		17,004			434,239
12		205,503		1,009,664		119,787	1,334,954
13				396,100			396,100
14				161,834	475,267		637,101
15				60,800	123,762		184,562
17		990,474	171,414				1,161,888
18		474,972		49,887	79,052		603,911
Total	3,837,078	4,062,772	3,548,340	1,711,973	678,081	1,249,983	15,088,227

[1] District 6 is Hopi.

[2] The figures given in the table above are based on old estimates, and the total acreages currently used fo Districts 3-7 inclusive are at variance with the totals indicated above. However, no recent data is availabl relating to the several Districts in terms of acreages lying within the various counties.

LIVESTOCK CENSUS[1]
(Includes Navajo and Hopi except as indicated)

Year	Mature Sheep	Mature Goats	Mature Cattle	Mature Horses	Total Mature Sheep Units	Total Lambs
1928[3]	1,375,000		37,500	67,500	1,862,500	
1930	574,821	186,768	25,000	50,000	1,111,589	349,237
1931	631,427	196,945	25,000	50,000	1,178,372	345,242
1932	575,913	173,585	21,000	44,000	1,053,498	257,148
1933	544,726	164,999	20,000	42,000	999,725	277,772
1934	502,619	147,427	19,000	40,000	926,046	289,178
1935	548,579	92,222	19,020	40,270	918,231	252,554
1936	459,285	73,600	12,557	32,007	711,148	281,342
1937	391,103	57,819	18,053	39,835	720,309	295,802
1940[4]	356,791	57,113	13,045	31,100	621,584	302,674
1941	433,733	72,018	—	—		
1951[4]	234,619	39,014	9,205	27,439	449,808	146,071
1952	220,476	41,997	8,847	27,802	433,983	162,739
1953	23,109	45,196	9,997	27,309	454,838	177,230
1954	252,261	52,678	11,149	26,972	484,395	173,393
1955	257,042	55,945	12,583	26,890[2]	497,769	172,408
1956[4]	266,185	62,509	13,678	25,783[2]	515,965	180,268

(1) From records on file at Navajo Agency. Older figures are estimates.
(2) Includes 768 yearling colts counted as mature horses.
(3) Includes lambs, kids and other immature stock, as well as mature goats.
(4) Excludes Hopi, includes only Navajo Reservation proper.

LIVESTOCK INCOME
NAVAJO—COMPARATIVE

	1956	1951	1952	1953	1946
Total agricultural income	$3,951,211	$6,631,552	$4,719,124	$3,505,502	$3,291,961
Number of families having agricultural income	[1]	9,078	9,013	9,345	11,177
Gross Income—Livestock	$3,355,211	$6,011,511	$3,541,728	$2,954,620	$1,113,342
Sheep:					
Number of ewes	308,888	258,403	252,395	259,249	352,658
Number of ewes sold		14,310	9,611	7,948	19,100
Number of lambs sold	128,700[4]	84,328	78,313	73,992	133,360
Income—Sale of lambs (and ewes 1956)	$1,152,195	$1,391,245	$ 976,886	$ 651,689	$ 778,884
Pounds of wool	2,155,703	1,937,586	1,958,170	2,061,223	2,133,387
Total value of wool[2]	$ 626,201	$1,457,955	$ 748,827	$ 746,693	$ 640,016
Total Income— Sheep and Wool[3]	$1,778,396	$4,575,793	$2,599,245	$2,305,674	$1,418,900
Cattle:					
Number of cows	12,636	8,284	7,982	8,793	9,726
Number of cattle sold	4,781[5]	4,881	3,382	2,481	3,191
Number of calves sold		1,691	613	828	1,146
Total Income—Cattle	$ 249,857	$ 733,470	$ 454,292	$ 216,239	$ 194,160

(1) No longer available.
(2) Does not include wool incentive payment.
(3) Does not include home consumption.
(4) Included both lambs and ewes sold.
(5) Includes both calves and mature cattle.

QUANTITY & VALUE OF WOOL & MOHAIR NAVAJO—COMPARATIVE

1935-1953[1]

Year	Pounds Wool	Value	Pounds Mohair	Value
1935	2,082,318	$		$
1936	2,187,641			
1937	2,111,542			
1938	2,139,350			
1939	1,935,988			
1940	2,297,868	498,045	148,802	38,133
1941	3,042,508	871,180	117,205	39,516
1942	2,616,515	784,654	137,346	54,938
1943	2,477,574	743,262	106,375	42,550
1944	2,600,000	690,000	102,000	40,800
1945	2,300,000	690,000	90,000	36,000
1946	2,133,387	640,016	83,489	33,396
1947	2,344,434	703,434	214,688	64,406
1948	2,139,336	678,979	77,890	19,984
1949	2,461,745	782,652	185,864	46,430
1950	2,367,973	919,543	154,330	54,560
1951	1,937,586	1,457,955	126,859	92,020
1952	1,958,170	748,827	149,900	58,643
1953	2,061,223	746,693	159,907	68,917
1956	2,155,703	626,201	146,439	82,906

(1) Production statistics not available for 1954-55.

AVERAGE INCOME PER SHEEP UNIT

Year	Income	10-Year Average, 1941-1950 by Classes of Livestock	
		Class of Livestock	Average Income Per Sheep Unit
1941	$4.49		
1942	4,43	Cattle	$9,45
1943	3.01	Sheep	7.77
1944	3.76	Goats	4.88
1945	4.24	Horses	0.37
1946	4.77		
1947	7.19		
1948	7.80		
1949	8.13		
1950	9.31		
1956	5.36		

AGRICULTURAL INCOME
Navajo[1]

Year	Stock Raising	Farm Crops	Total
1956	$3,355,211	$ 596,000	$3,951,211
1953	2,954,680	550,822	3,505,502
1952	3,541,728	1,177,396	4,719,124
1951	6,011,511	620,041	6,631,552
1950	5,572,037	543,656	6,115,693
1949	4,915,738	1,057,059	5,972,797
1948	4,652,259	1,099,825	5,752,084
1947	4,205,548	954,007	5,159,555
1946	2,907,922	952,045	3,859,967
1945	2,702,615	800,084	3,502,699
1944	2,676,198	581,764	3,257,962
1943	2,095,614	765,440	2,861,054
1942	3,189,469	899,845	4,089,314
1941	3,239,659	409,785	3,649,444
1940	1,762,329	470,294	2,232,623

(1) Production statistics not available for 1954-55.

AGRICULTURAL INCOME
(Farm Crops and Livestock)
Navajo

Year	Total Value of Sales	Value of Products Cons. in Home	Gross Income Total
1956	$2,249,104	$1,702,107	$3,951,211
1953	2,022,944	1,482,508	3,505,502
1952	2,828,889	1,890,235	4,719,124
1951	4,354,805	1,890,235	4,719,124
1951	4,354,805	2,276,747	6,631,552
1950	4,116,720	1,998,973	6,115,693
1949	3,655,926	2,316,871	5,972,797
1948	3,343,090	2,408,994	5,752,084
1947	3,206,464	1,953,091	5,159,555
1946	2,382,711	1,477,256	3,291,967
1945	2,311,050	1,191,649	3,502,699
1944	2,180,798	1,077,164	3,257,962
1943	1,853,156	1,007,898	2,861,054
1942	2,462,972	1,626,243	4,089,314
1941	2,509,082	1,140,362	3,649,444
1940	1,530,003	702,620	2,232,623

(1) Production statistics not available for 1954-55.

SUMMARY LIVESTOCK CENSUS—SOUTHERN NAVAJO RESERVATION—(FORT DEFIANCE) 1915-1930(1)

Year	Sheep	Goats	Horses	Cattle	Mules	Burros
1915	403, 316	116, 202	26, 255	14, 406	435	2, 116
1930	924, 108	373, 531	34, 755	26, 075	-	-

DISTRIBUTION OF SHEEP BY FAMILY—SOUTHERN NAVAJO RESERVATION (FORT DEFIANCE)—1915(1)

Year	No Sheep	1 - 10 Sheep	11-25 Sheep	26-50 Sheep	51-100 Sheep	101-300 Sheep	301-500 Sheep	501-800 Sheep	801-1200 Sheep	1200-over Sheep	Total Families
1915	581	198	187	303	325	443	165	107	55	36	2, 400

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(1) Data for 1915 was taken from a Census completed in 1915 by Peter Paquette for the Southern Navajo Reservation. For 1930, from Condition of the Indian Tribes - Report of the Joint Committee, GPO 1932. It is noteworthy that, of 2, 400 families shown in 1915, 24% had no sheep.

NAVAJO LIVESTOCK INDUSTRY
ACTUAL & PERMITTED RESERVATION STOCK—1956

District Number	Number of Permits	Number of Families, est.	Sheep Units Total Permitted	Year Long Total Stocking	Actual Stocking vs. Permitted Number
1	369	410	34,326	31,130	— 3,196
2	282	320	20,346	27,456	+ 7,110
3	516	320	48,507	38,767	— 3,740
4	451	767	29,359	39,039	+ 9,680
5	281	343	28,468	19,475	— 8,993
7	662	791	53,080	43,403	— 9,677
8	429	515	31,683	34,532	+ 2,849
9	400	525	24,065	33,690	+ 9,625
10	632	701	34,864	32,518	— 2,345
11	352	421	17,354	16,020	— 1,334
12	1,009	1,817	53,210	55,336	+ 2,126
13	199	412	16,231	10,948	— 5,283
14	623	685	29,486	32,020	+ 2,534
15(on)[1]	106	(635)[2]	7,474	6,969	— 405
17	961	1,184	78,860	63,781	—15,079
18	702	708	37,515	27,237	—10,278
Total—Res.	7,974	10,258	544,828	512,321	—26,406[3]

OFF-RESERVATION—1956

15	528	635	35,801	37,103	+ 1,302
16	839	1,670	50,690	52,951	+ 2,261
19	396	455	26,476	26,476	0
Total	1,763	2,760	112,967	116,530	+ 3,563
Grand Total Res. & Off Reservation	9,737	13,018	657,795	628,851	—22,843

(1) Includes only that part of District 15 on the Reservation.

(2) Outside Reservation not included in totals.

(3) Based on voluntary 1956 count.

NAVAJO LIVESTOCK—OUTSIDE RESERVATION
NEW MEXICO GRAZING DISTRICT NO 7 (District 15, 16, 19)[1]

District & Year	Number Permits	T. Stock M.S.U.	Mature Sheep	Lambs	Mature Goats	Kids	Mature Cattle	Calves	Horses
1950									
District 15	443	53,344	28,601	20,683	4,459	2,292	1,326	618	2,996
District 16	597	47,242	22,204	16,449	5,560	4,194	1,537	712	2,666
District 19	372	60,277	36,814	28,773	4,917	3,723	1,789	854	2,268
TOTAL	1,412	160,813	87,619	65,905	14,936	10,846	4,652	2,184	7,930
1951									
District 15	441	37,463	20.298	12,585	4,027	2,537	662	305	2,098
District 16	544	23,874	9,727	6,031	4,211	2,652	549	253	1,548
District 19	379	33,490	20,735	12,856	3,278	2,065	638	293	1,385
TOTAL	1,364	94,827	50,760	31,422	11,516	7,254	1,849	851	5,031
1952									
District 15	474	41,907	21,474	15,892	4,278	3,251	381	152	2,926
District 16	1,098	17,956	11,481	8,496	1,841	1,399	111	44	838
District 19	281	22,409	13,238	9,796	3,178	2,415	37	15	1,169
TOTAL	1,853	82,272	46,194	34,184	9,297	7,065	529	211	4,933
1951									
District 15	435	27,768	14,030	10,663	3,558	2,669	245	137	1,840
District 16	547	21,096	9,382	7,130	4,043	3,032	219	123	1,359
District 19	345	22,000	13,253	10.073	3,377	2,533	5	3	1,070
TOTAL	1,327	70,864	36,665	27,866	10,978	8,234	469	263	4,269
1954									
District 15	462	32,564	15,513	10,704	4,921	3,592	285	148	2,198
District 16	496	34,932	16,448	11,349	7,611	5,556	337	75	1,905
District 19	410	28,003	15,997	11,038	4,022	2,936	51	26	1,556
TOTAL	1,368	95,499	47,958	33,091	16,554	12,084	673	349	5,659
1955									
District 15	269	20,628	11,234	7,527	2,524	1,818	340	160	1,034
District 16	366	28,784	14,190	9,507	5,739	4,132	348	164	1,423
District 19	473	33,117	18,875	12,646	5,457	3,929	44	21	1,713
TOTAL	1,108	82,529	44,299	29,680	13,720	9,879	732	345	4,170
1956									
District 15	528	37,103	18,777	12,768	5,169	3,877	521	250	1,850
District 16	839	52,951	24,640	16,755	10,840	8,130	649	312	2,390
District 19	396	26,476	15,382	10,460	4,368	3,276	46	22	1,299
TOTAL	1,763	116,530	58,800	39,983	20,377	15,283	1,216	584	5,539

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(1) BLM administers Public Domain and R.R. exchange lands. Area also includes tribally purchased land, allotted land, etc.

(2) Includes mature goats.

NAVAJO LIVESTOCK INDUSTRY
RESERVATION GRAZING RESOURCES—RANGE USE—1956

Dist. No.	Surface Area Acres	Surface Area Sq. Mi.	Carry. Cap. S.U.Y.L.	Total Range Use S.U.Y.L.	Range Use vs. Carry. Cap.	% Over or Under Carry. Cap.
1	1,035,540	1,618	34,221	31,130	— 3,091	— 9
2	1,094,976	1,711	20,506	27,456	+ 6,950	+34
3	1,743,397	2,724	47,288	38,767	— 8,521	—18
4	878,133	1,372	23,372	39,039	+ 9,680	+67
5	785,788	1,228	26,351	19,475	— 8,993	—26
7	925,088	1,449	49,727	43,403	— 6,324	—13
8	1,450,596	2,268	29,978	34,532	+ 4,554	+15
9	996,276	1,557	21,018	33,690	+12,672	+60
10	794,484	1,241	33,717	32,518	— 1,199	—36
11	434,239	678	17,261	16,020	— 1,241	— 7
12	1,334,954	2,086	52,385	55,336	+ 2,951	+ 6
13	396,100	619	16,703	10,948	— 5,755	—34
14	637,101	995	25,321	32,020	+ 6,699	+26
15(on)	184,562	288	7,171	6,969	— 202	— 3
17	1,161,888	1,815	74,895	63,781	—11,114	—15
18	603,911	944	33,008	27,237	— 5,771	—17
Res. Total	14,457,033	22,593	512,922	512,321	— 601	0%

(1) Includes only that part of District 15 on the Reservation.

NAVAJO LIVESTOCK INDUSTRY
LIVESTOCK BY CLASSES—1956

Dist. No.	No. Mature Sheep	No. Lambs	No. Mature Goats	No. Kids	No. Mature Cattle	No. Calves	No. Mature Horses	No. Colts
1	18,238	11,234	2,624	1,996	712	368	1,484	137
2	15,181	9,885	3,860	2,551	555	237	1,239	94
3	21,095	12,854	3,359	2,500	1,337	598	1,793	169
4	19,547	14,139	5,565	4,214	1,123	612	1,887	240
5	9,125	6,208	1,405	1,049	995	566	993	54
7	21,818	16,187	4,606	3,606	1,066	555	2,543	184
8	17,627	9,673	4,817	3,170	942	406	1,664	123
9	17,112	10,713	7,294	5,331	551	279	1,416	228
10	16,694	11,447	3,585	2,548	776	383	1,827	192
11	6,801	5,526	2,163	2,049	514	266	1,000	114
12	27,200	18,136	7,396	5,752	1,560	611	2,900	121
13	6,841	5,114	986	745	209	119	457	35
14	13,451	8,507	4,243	3,068	1,514	668	1,654	58
15(on)	2,932	2,189	1,005	809	373	211	308	11
17	39,176	28,948	6,321	4,761	716	344	3,084	261
18	13,347	9,508	3,280	2,545	735	323	1,534	124
TOTAL	226,185	180,268	62,509	46,694	13,678	6,546	25,738[1]	2,145

(1) Includes 768 yearling colts.

NAVAJO LIVESTOCK INDUSTRY
MATURE SHEEP UNITS BY LAND MANAGEMENT DISTRICT
1936-1956

Dist. No.	Carrying Capacity	STOCKING—MATURE SHEEP UNITS Y. L.						
		1956	1955	1954	1953	1952	1951	1950
1	34,221	31,130	32,286	31,524	30,275	27,057	25,676	26,056
2	20,506	27,456	23,713	19,749	18,866	18,007	18,228	16,636
3	47,288	33,767	37,358	35,908	36,332	34,131	36,901	34,830
4	23,372	39,039	32,127	40,482	36,367	35,464	33,000	33,051
5	26,351	19,475	18,720	18,938	18,150	17,691	18,568	19,277
7	49,727	43,403	44,821	40,732	37,641	37,061	36,828	38,015
8	29,978	34,532	34,384	30,148	28,752	27,182	26,859	26,753
9	21,018	33,690	28,435	26,739	23,922	22,912	24,916	25,969
10	33,717	32,518	29,956	32,472	28,159	27,593	27,407	29,642
11	17,261	16,020	14,382	14,428	12,896	12,348	12,054	13,759
12	52,385	55,336	56,242	51,257	48,982	47,166	50,706	52,856
13	16,703	10,948	11,492	10,049	9,981	9,796	10,361	11,993
14	25,321	32,032	38,066	38,294	33,402	29,186	30,990	31,457
15(on)	7,171	6,969	7,695	7,410	6,198	6,198	7,097	8,716
17	74,895	63,781	56,530	55,578	54,570	55,114	59,743	58,746
18	33,008	27,237	31,562	30,687	30,345	29,965	26,886	32,680
TOTAL	512,922	512,321	497,769	484,395	454,838	436,871	446,220	460,526

Dist. No.	Carrying Capacity	STOCKING—MATURE SHEEP UNITS Y. L.					
		1943	1942	1941	1940	1937	1936
1	34,221	30,946	37,463	46,231	50,021	53,825	42,121
2	20,506	19,620	23,006	23,941	25,679	28,221	26,238
3	47,288	44,543	49,011	52,273	51,912	56,514	44,764
4	23,372	41,340	40,390	42,618	47,258	49,606	42,718
5	26,351	24,676	26,596	23,463	23,196	29,808	17,108
7	49,727	42,783	40,169	34,582	39,894	56,425	51,419
8	29,978	30,363	34,251	33,986	33,162	41,709	25,539
9	21,018	34,866	37,034	35,835	45,422	39,521	28,676
10	33,717	32,911	35,519	35,474	37,767	43,539	40,769
11	17,261	15,952	15,119	14,456	14,708	20,991	19,987
12	52,385	63,763	73,780	70,432	69,798	66,764	59,464
13	16,703	16,591	19,033	17,992	21,294	19,403	18,980
14	25,321	38,517	40,883	45,921	49,687	52,808[1]	40,388
15(on)	7,171	8,680	11,779	9,739	11,670	15,225[1]	30,586
17	74,895	74,126	69,519	66,619	63,499	87,808[1]	56,664
18	33,008	32,590	30,017	31,320	36,617	52,121[1]	70,591
TOTAL	512,922	552,267	583,569	584,882	621,584	707,879	656,774

(1) Include seasonal use by livestock from Taylor Grazing District 7.

NAVAJO LIVESTOCK INDUSTRY
RESERVATION DISTRICTS BY STATES
1956

	ARIZONA			NEW MEXICO			UTAH		
Dist. No.	Range Acres	Carrying Capacity	Total Stocking S.U.Y.L.	Range Acres	Carrying Capacity	Total Stocking S.U.Y.L.	Range Acres	Capacity Carrying	Total Stocking S.U.Y.L.
1	1,035,540	34,221	31,130						
2	795,356	18,048	25,161				299,620	2,458	2,295
3	1,743,397	47,288	38,767						
4	878,133	23,372	39,039						
5	785,788	26,351	19,475						
7	925,088	49,727	43,403						
8	992,239	22,847	27,548				458,357	7,131	6,984
9	607,373	14,959	24,289	16,684	753	1,219	372,219	5,306	8,182
10	794,484	33,717	32,518						
11	417,235	16,541	16,020	17,004	720	[1]			
12	205,503	6,300	6,812	1,009,664	44,126	40,656	119,787	1,959	7,868
13				396,100	16,703	10,948			
14				637,101	25,321	32,020			
15(on)				184,562	7,171	6,969			
17	1,161,888	74,895	63,781						
18	474,972	26,973	20,722	128,939	6,035	6,515			
TOTAL	10,816,996	395,239	388,665	2,390,054	100,829	98,327	1,249,983	16,854	25,329
Percent Total Stocking			76%			19%			5%

(1) Included in Arizona tabulation, minor seasonal summer use in New Mexico.

TOTAL NAVAJO-OWNED STOCK ON RESERVATION—COMPARATIVE BY YEAR AND DISTRICT: NUMBER AND PERCENTAGE SHEEP UNITS OVER OR UNDER CARRYING CAPACITY—1951-1956[1]

		1956		1955[1]		1954		1953		1952		1951	
Dist. No.	Carry. Cap.	Range Use vs. Car. Cap.	% Ov/Und Car. Cap.	Range Use vs. Car. Cap.	% Ov/Und Car. Cap.	Range Use vs. Car. Cap.	% Ov/Und Car. Cap.	Range Use vs. Car. Cap.	% Ov/Und Car. Cap.	Range Use vs. Car. Cap.	% Ov/Und Car. Cap.	Range Use vs. Car. Cap.	% Ov/Und Car. Cap.
1	34,221	— 3,091	— 9%	— 1,935	— 6%	— 2,672	— 8%	— 3,946	—12%	— 7,164	—21%	— 8,545	—25%
2	20,506	+ 6,950	+34%	+ 3,207	+16%	— 757	— 4%	— 1,640	— 8%	— 2,499	—12%	— 2,278	—11%
3	47,288	— 8,521	—18%	— 9,930	—21%	—11,380	—24%	—10,956	—23%	—13,157	—28%	—10,387	—22%
4	23,372	+15,667	+67%	+ 8,755	+37%	+17,110	+73%	+12,995	+55%	+12,092	+52%	+ 9,628	+41%
5	26,351	— 6,876	—26%	— 7,631	—29%	— 7,413	—28%	— 8,201	—31%	— 8,660	—33%	— 7,783	—30%
7	49,727	— 6,324	—13%	— 4,906	—10%	— 8,995	—18%	—12,086	—24%	—12,666	—25%	—12,899	—26%
8	29,978	+ 4,554	+15%	+ 4,406	+15%	+ 170	+ 1%	— 1,226	— 4%	— 2,796	— 9%	— 3,119	—10%
9	21,018	+12,672	+60%	+ 7,417	+35%	+ 5,721	+27%	+ 2,904	+14%	+ 1,894	+ 9%	+ 3,898	+18%
10	33,717	— 1,199	—36%	— 3,761	—11%	— 1,245	— 4%	— 5,558	—16%	— 6,124	—18%	— 6,310	—19%
11	17,261	— 1,241	— 7%	— 2,879	—17%	— 2,833	—16%	— 4,365	—25%	— 4,913	—28%	— 5,207	—30%
12	52,385	+ 2,951	+ 6%	+ 3,857	+ 7%	— 1,128	— 2%	— 3,403	— 6%	— 5,219	—10%	— 1,679	— 3%
13	16,703	— 5,755	—34%	— 5,211	—31%	— 6,654	—40%	— 6,722	—40%	— 6,907	—41%	— 6,342	—38%
14	25,321	+ 6,699	+26%	+11,573	+46%	+11,848	+47%	+ 7,076	+28%	+ 3,070	+12%	+ 5,669	+22%
15(on)	7,171	— 202	— 3%	— 765	—11%	— 904	—13%	— 2,030	—28%	— 2,030	—28%	— 74	— 1%
17	74,895	—11,114	—15%	—15,402	—17%	—16,290	—22%	—17,315	—23%	—16,723	—22%	—15,152	—20%
18	33,008	— 5,771	—17%	— 5,506	—17%	— 6,647	—20%	— 6,733	—20%	— 7,137	—22%	— 6,122	—19%
Total	512,922	— 601	— 0%	—18,711	— 4%	—32,069	— 6%	—61,206	—12%	—78,939	—15%	—100,081	—20%

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(1) Figures based voluntary livestock count—1956.

THE NAVAJO TIMBER RESOURCE
Jul 1, 1957

A. MERCHANTABLE VIRGIN TIMBER	ACREAGE	VOLUME FT. B.M.
Ponderosa Pine		2,131,163,000
Douglas Fir		42,112,751
Spruce		3,327,548
White Fir		611,301
TOTAL	376,752	2,177,214,600
Average vol./acre (Ponderosa)		5,564 ft. B.M.
Average vol./acre (all species)		4,774 ft. B.M.

B. UNMERCHANTABLE (INACCESSIBLE)	ACREAGE	RESIDUAL VOL. FT. B.M.
Ponderosa Pine	10,454	25 Million
Navajo Mountain:		
Spruce	4,500	12 Million
Defiance Plateau & Chuska Range:		
All Species	284,200	60 Million
TOTAL	299,154	97 Million

C. CUT-OVER	ACREAGE	VOLUME FT. B.M.
Ponderosa Pine	76,398	269,226,552
Cut to July 1, 1957		205,980,800

PRODUCTION STATISTICS—NAVAJO TRIBAL SAWMILL ENTERPRISE

FISCAL YEAR	ANNUAL LOG PRODUCTION		ANNUAL LUMBER SALES	
	Net Scale M Ft.	Stumpage Value[1]	Valume M Ft.	Value[2]
1952	12,704	$126,155	14,528	$1,082,494
1953	12,392	146,583	14,642	1,111,020
1954	12,235	142,623	12,193	819,089
1955	16,932	169,093	17,506	1,325,623
1956	17,819	216,474	17,644	1,497,185
1957	17,186	288,154	17,863	1,329,460

(1) Average weighted stumpage price per M ft. July 1, 1952 through June 30, 1957 = $12.20.

(2) Total wages paid to 100 woods and log transportation workers and 170 mill and shipping employees, more or less, approximates 40-50% of the value received. All but 15 are Navajo Indians.

ACRES IRRIGATED AND CROP VALUE PER ACRE

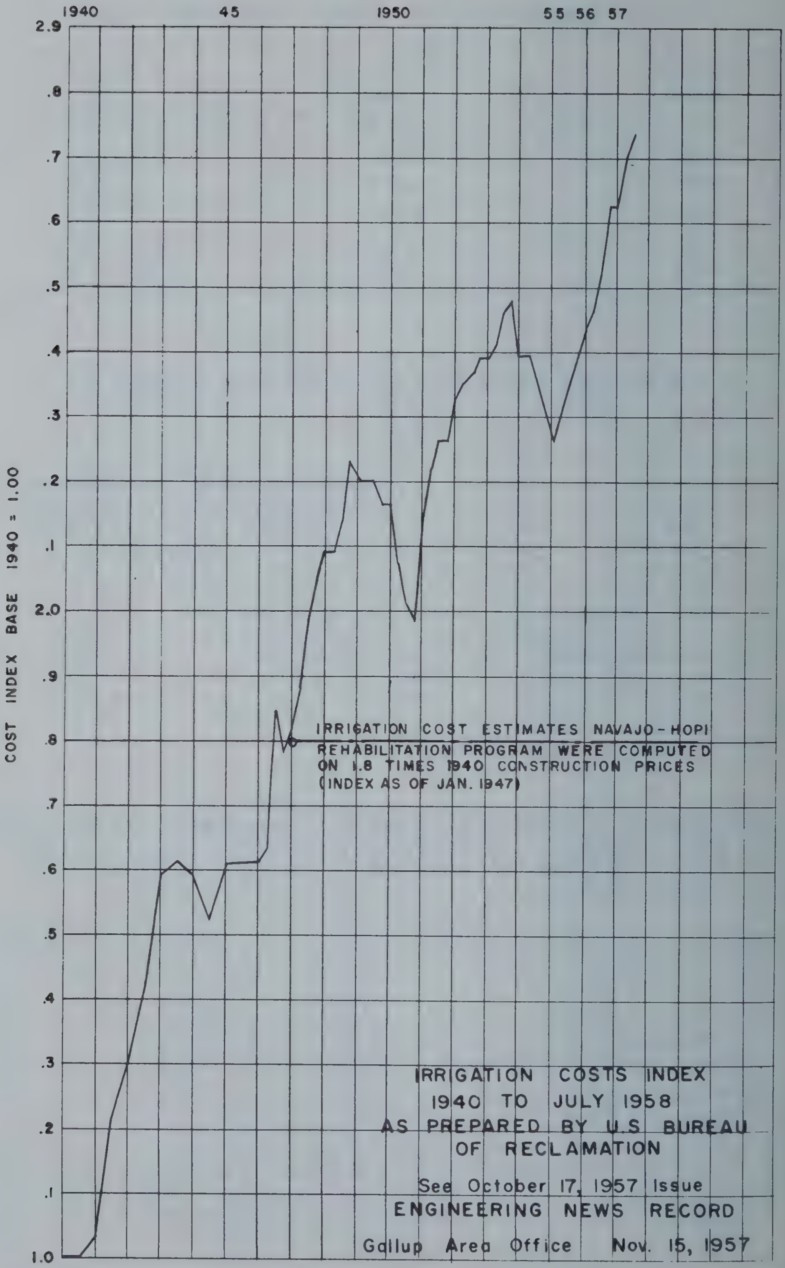
Calendar Year	Irrigated Land Acres	Value per Acre
1951	10,008	$64.40
1952	17,816	51.00
1953	12,362	50.58
1954	12,063	57.80
1955	11,195	56.50
1956	9,696	57.00

INCREASED ACRE FEET OF SHORTAGE—NAVAJO

Storage Site	Prior to 1951	Completed to Date Under Long Range Program	Increased Reservoir Capacity In Acre Feet
Choiska	679 A.F.	1,155 A.F.	476
Long Lake	None	5,516 A.F.	5,516
Whiskey Lake	None	2,015 A.F.	2,015
Red Lake	3,500 A.F.	10,000 A.F.	6,500
Round Rock	300 A.F.	900 A.F.	600
Total Increase			15,107

NEW LANDS SUBJUGATED AND PLACED UNDER IRRIGATION SINCE INCEPTION OF LONG RANGE PROGRAM—NAVAJO

Project	Acreage	No. New Farms	No. People Benefited by Farms
Fruitland	400 Ac.	20	100
Hogback			
Pump Unit A	250 Ac.	11	55
Pump Unit B	725 Ac.	26	130
Helium Unit	1,200 Ac.		
Many Farms	274 Ac.	13	65
Granado	485 Ac.	16	80
Red Lake	1,000 Ac.	31	155
TOTAL	4,334 Ac.	117	585

1940
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1950
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COST INDEX BASE 1940 = 1.00
IRRIGATION COST ESTIMATES NAVAJO-HOPI REHABILITATION PROGRAM WERE COMPUTED ON 1.8 TIMES 1940 CONSTRUCTION PRICES (INDEX AS OF JAN. 1947)
IRRIGATION COSTS INDEX
1940 TO JULY 1958
AS PREPARED BY U.S BUREAU OF RECLAMATION
See October 17, 1957 Issue
ENGINEERING NEWS RECORD
Gallup Area Office Nov. 15, 1957

PRESENT AND ULTIMATE ACREAGES IRRIGATED FARMLAND DEVELOPED OR TO BE DEVELOPED

Navajo Reservation (1956)

Sub-Agency	District	Present Acres	Ultimate Acres	Present Acres Dry Farmland
Tuba	1	150	200	719
	2	405	405	931
	3	1,233	1,233	606
	5	60	60	664
	8	883	883	315
TOTAL		2,731	2,731	
Fort Defiance	7	67	67	2,184
	14	1,180	1,180	2,093
	17	2,130	2,130	2,912
	18	2,088	3,260	3,331
TOTAL		5,465	6,637	
Chinle	4	233	233	2,725
	10	2,786	5,680	2,007
	11	3,053	3,053	636
TOTAL		6,072	8,966	
Shiprock	9	1,733	1,733	434
	12	11,740	20,851	924
	13	3,250	3,250	. .
TOTAL		16,723	25,834	. .
TOTAL		30,991	44,168	36,219

NAVAJO TRIBAL INCOME DERIVED FROM MINERALS OTHER THAN OIL AND GAS 1950-56[1]

Fiscal Year	Uranium and Vanadium	Sand and Gravel	Coal	Totals
1950				
Tribal	65,755.92	328.67	0	$ 66,084.59
Allotted	0	0	0	0
Total FY 1950				66,084.59
1951				
Tribal	151,204.65	1,767.50	402.70	153,374.85
Allotted	0	974.90	0	974.90
Total FY 1951				154,349.75
1952				
Tribal	299,212.34	1,757.38	3,072.66	304,042.38
Allotted	2,692.10	0	0	2,692.10
Total FY 1952				306,734.48
1953				
Tribal	470,254.17	1,452.30	3,450.19	475,156.66
Allotted	28,910.82	25.00	0	28,935.82
Total FY 1953				504,092.48
1954				
Tribal	656,837.13	3,177.38	3,423.12	663,437.63
Allotted	45,344.79	1,126.06	0	46,470.85
Total FY 1954				709.908.48
1955				
Tribal	651,693,40	2,535.99	1,408.93	655,638.32
Allotted	21,294.48	1,410.90	0	22,705.38
Total FY 1955				678,343.70
1956				
Tribal	548,537.00	1,237.62	1,982.65	551,757.27
Allotted	27,352.00	805.98	0	28,157.98
Total FY 1956				579,915.25
GRAND TOTALS	$2,969,088.80	16,599.68	13,740.25	$2,999,428.73

(1) Prepared by Navajo Agency Branch of Realty

OIL PRODUCTION—NAVAJO RESERVATION—
1935-1957[1]

Year	Acreage Under Lease	No. Producing Oil Wells Drilled	Total No. Producing Oil Wells	Royalty Oil Produced Barrels	Gross Oil Produced Barrels	Total Barrels Since First Production
1935	12,080	11	40	39,501	316,013	5,065,648
1936	12,880	8	38	42,612	340,978	5,406,628
1937	12,080	3	40	49,846	398,769	5,846,763
1938	12,080	13	45	46,403	372,896	6,219,660
1939	12,080	12	53	40,711	325,091	6,545,351
1940	12,480	8	56	37,019	296,156	6,841,507
1941	12,480	0	54	-	223,039	7,064,547
1942	13,800	0	48	-	188,695	7,253,243
1943	25,080	0	48	-	152,823	7,406,066
1944	13,800	4	53	-	132,879	7,538,946
1945	23,840	0	53	-	152,067	7,691,013
1946	18,920	2	49	-	160,150	7,851,164
1947	46,847	0	49	-	171,152	8,025,346
1948	81,695	2	49	-	158,978	8,184,324
1949	79,847	2	51	-	142,001	8,326,325
1950	87,908	0	51	-	133,173	8,459,498
1951	92,202	1	49	-	149,088	8,608,586
1952	178,859	0	47	-	133,983	8,742,569
1953	193,212	0	44	-	108,977	8,851,546
1954	704,134	0	46	-	121,338	8,972,884
1955	784,953	3	55	49,964	173,991	9,146,875
1956	847,728	6	54	44,266	354,397	9,501,272
1957	1,129,250	43	127	154,223	1,233,784	10,735,056

(1) Prepared by Navajo Agency Branch of Realty.

NAVAJO TRIBAL INCOME—OIL AND GAS— 1935-1957[1]

Year	Lease Bonuses Received	Royalties From Oil	Advance Royalty	Annual Rental	Helium Royalties	Natural Gas Royalties	Total For Fiscal Year
1935	$ -	$ 45,903	$ -	$ 3,600	$ -	$ -	$ 49,503
1936	-	55,918	160	800	-	-	56,878
1937	-	67,210	-	3,600	-	-	70,810
1938	-	69,110	-	3,600	-	1,113	70,213
1939	-	55,015	-	3,600	-	1,168	56,183
1940	1,501	43,282	-	500	-	1,250	50,133
1941	-	32,587	-	3,600	-	1,495	36,187
1942	3,720	29,831	3,600	4,650	-	3,193	44,994
1943	33,952	22,892	3,600	4,650	-	3,876	68,970
1944	-	19,936	3,600	4,750	-	4,633	32,919
1945	7,055	25,870	3,600	4,650	-	3,869	45,045
1946	-	31,221	-	8,250	-	3,523	42,994
1947	166,925	37,161	-	54,602	-	4,839	263,528
1948	861,317	46,740	300	121,585	-	5,189	1,152,468
1949	159,222	46,664	-	80,978	119,336	4,529	291,395
1950	227,828	41,771	-	107,385	-	1,947	378,932
1951	1,084,907	44,790	-	112,853	-	2,728	1,245,279
1952	1,173,115	41,150	-	211,224	-	3,057	1,428,548
1953	4,872,539	42,474	-	245,365	-	1,534	5,161,914
1954	4,392,536	39,898	-	877,767	-	-	5,310,202
1955	515,306	49,964	-	978,791	-	-	1,544,062
1956	300,658	114,008	-	1,048,160	16,871	-	1,479,698
1957	$33,132,886	257,797	-	$1,400,062	-	$17,237	$34,807,983

(1) Prepared by Navajo Agency Branch of Realty.

OFFICERS OF THE NAVAJO TRIBAL COUNCIL

1923-1955 ([1])

DATES	CHAIRMAN	VICE-CHAIRMAN
1923-28	Chee Dodge	None
1928-32	Deshna Chischillige	Maxwell Yazzie
1932-36	Thomas Dodge	Marcus Kanuho
1937-38	Henry Taliman	Roy Kinsel
1938-42	Jacob C. Morgan	Howard Gorman
1942-46	Chee Dodge	Sam Ahkeah
1946-50	Sam Ahkeah	(Chee Dodge[2]) Zhealy Tso
1951-54	Sam Arkeah	(John Claw[3]) Adolph Maloney
1955-Present	Paul Jones	Scott Preston

[1] Compiled by Albert Sandoval, Sr.

[2] Chee Dodge was elected by popular vote, but died before taking office; Zhealy Tso was elected by the Tribal Council to serve the unexpired term.

[3] John Claw resigned the office to which he was elected on August 15, 1952, and Adolph Maloney was elected by the Tribal Council to serve the unexpired term.

THE NAVAJO TRIBE

NAVAJO TRIBAL OFFICERS

OFFICE OF THE CHAIRMAN

Chairman, Navajo Tribal Council	Paul Jones
Vice Chairman, Navajo Tribal Council	Scott Preston
Administrative Assistant	John C. McPhee

TRIBAL COUNCIL COMMITTEES

Education, Chairman	Dillon Platero
Health, Chairman	Annie Wauneka
Welfare, Chairman	James Becenti
Law and Order, Chairman	John Perry
Relocation, Chairman	Hoska Cronemeyer
Resources, Chairman	Ned Hatathli
Loans, Chairman	Ned Plummer

OFFICE OF THE EXECUTIVE SECRETARY

Executive Secretary	J. Maurice McCabe
Administrative Assistant	Manuel Begay
Recording Secretary	Marjorie Allan
Council Interpreter	Carl Beyal

INDUSTRIAL DEVELOPMENT AND OPERATIONS

Director	Paul W. Hand
Assistant Director	Leigh P. Hubbard
Assistant Director	Fordyce W. Riggs

TRIBAL COMPTROLLER—ACCOUNTING

Tribal Comptroller	I. Howard Wardlaw

LAND USE AND SURVEYS

Acting Supervisor	Edward Plummer
Administrative Assistant	J. Lee Correll

DEPARTMENT OF COMMUNITY SERVICES

Acting Director	Lawrence B. Moore

DEPARTMENT OF FARM AND RANGE MANAGEMENT

Director	(Vacant)
Manager, Farm Training Project	Clifford G. Hansen
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Manager, BAR-N Ranch	Eugene D. Lowery
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Assistant General Counsel	Lawrence C. Huerta
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Maintenance Foreman	A. R. Wren

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Tribal Superintendent—Tribal Sawmill	Frank Carter
Accounting	James Ogal
Sales Manager	Jessie Walker

WINDOW ROCK LODGE

Manager	Mr. and Mrs. Louis N. Shepherd

NATAANI NEZ LODGE

Manager	Mrs. Cossette Davis

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Assistant to the General Superintendent	Robert W. Young
Interpreter	Albert Sandoval, Sr.
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Chief, Branch of Law and Order	Patrick H. Nelson
Chief, Branch of Relocation	Kent FitzGerald
Chief, Branch of Welfare	Beatrice L. Erickson
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Chief, Branch of Realty	Albert H. Harris
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U. S. GOVERNMENT PRINTING OFFICE : 1958 O -454032

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